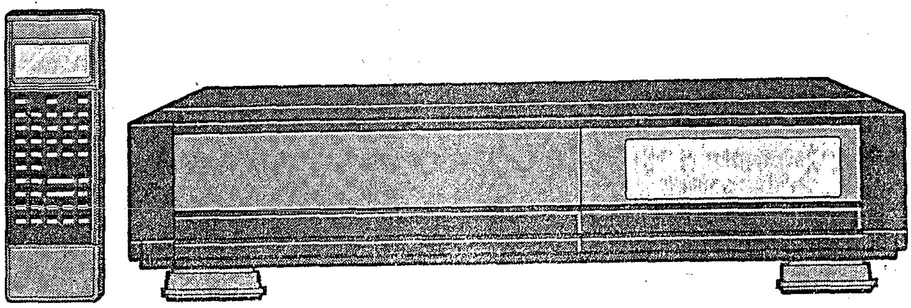
SANYO

Parts List & Circuit Diagrams

Video Cassette Recorder

VHR-7800G
(West Germany)
VHR-7810G
(Switzerland etc.)



VHS PAL HQ
Hi-Fi

Contents

CABINET & CHASSIS PARTS 1
MECHANISM PARTS 1 2
MECHANISM PARTS 2 3
MECHANISM PARTS 3 4

ELECTRICAL PARTS

COMPL, CP-A 5
COMPL, VD-1 10
COMPL, VP-2 10
COMPL, AD-1 11
COMPL, CP-2 12
COMPL, PW-1 14
COMPL, PW-2 15
COMPL, IR-1 15
IF PACK 17
DECODER 18
COMPL, TN-7 18
COMPL, TM-1 19
COMPL, TM-2 19
COMPL, TM-8 20
COMPL, TB-1 20
ACCESSORIES 20
PACKING MATERIALS 20
REMOCON 21
COMPL, RM-1 21
COMPL, IR UNIT 21
COMPL, IR-2 22
COMPL, IR-3 23
Circuit Diagram

Please see other materials with Reference No. given in table below.

Materials	Model No.	Reference No.
Service Manual	VHR-7800 Series	WM-530715
Mechanism Manual	P90 Mechanism	WM-530599

PRODUCT SAFETY NOTICE

The components designated by a symbol (⚠) in this schematic diagram designates components whose value are of special significance to product safety. Should any component designated by a symbol need to be replaced, use only the part designated in the Parts List. Do not deviate from the resistance, wattage and voltage ratings shown.

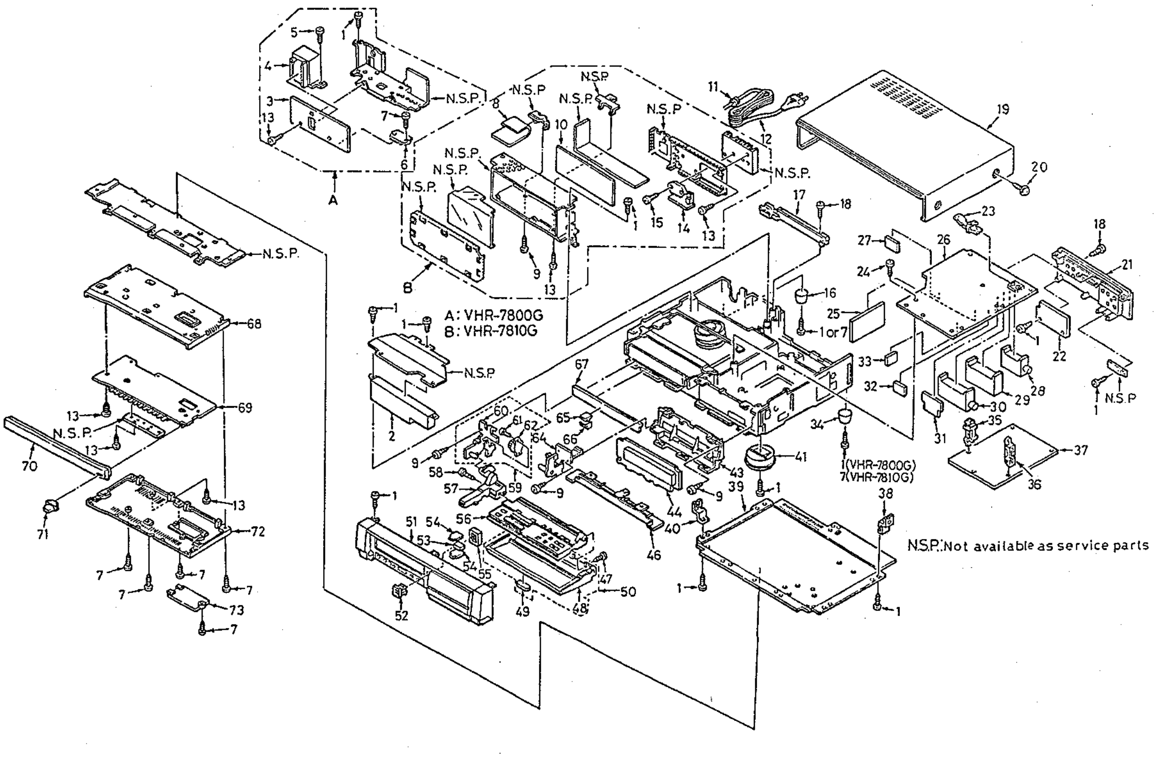
NOTE: 1. Parts order must contain Model Number, Part Number and Description.
2. N.S.P.: Not available as service parts.

LP3H/G 143 125 92
LP3HA/G 143 130 27

REFERENCE No. WM-530716

CABINET & CHASSIS PARTS

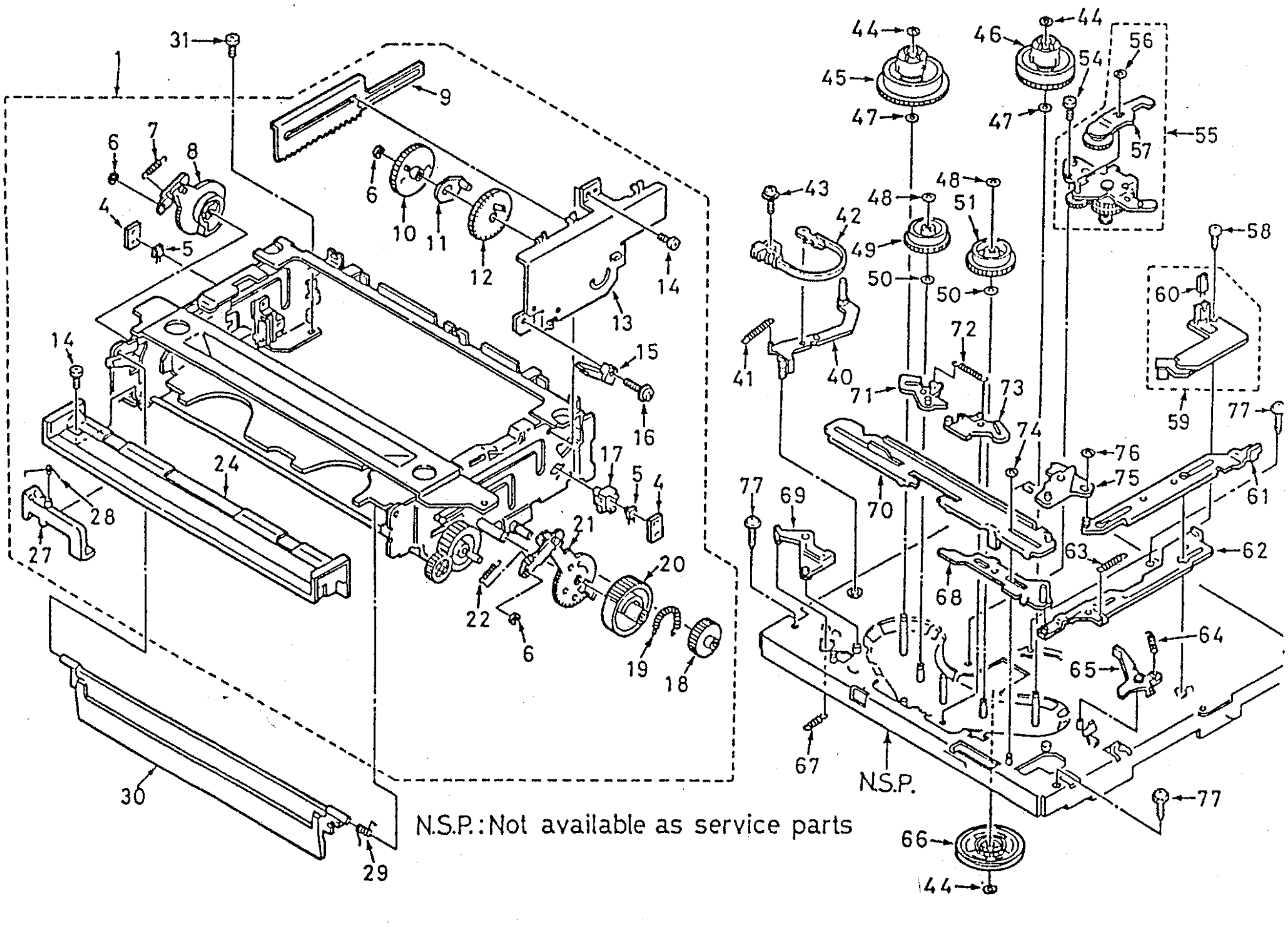
LOCATION		PARTS NO.	DESCRIPTION
1		411 137 0007	SCR L-TPG BIN 3X10
2		613 114 2565	COMPL,VP-2
3		613 112 6657	COMPL,PW-1(VHR-7800G)
4	⚠	613 112 7401	TRANS,POWER,T5001(VHR-7800G)
5		411 021 9604	SCR S-TPG BIN 4X8
6		409 214 8909	IC511,STK7576,INCLUDE PW-1 (VHR-7810G)
7		411 021 4302	SCR S-TPG BIN 3X14
8	⚠	613 082 9795	INSULATOR
9		411 021 4005	SCR S-TPG BIN 3X12
10		613 115 2861	COMPL,PW-1(VHR-7810G)
11	⚠	613 053 6686	FIXER
12	⚠	613 086 0507	CORD,POWER
OR	⚠	613 086 2150	CORD,POWER
13		411 021 6405	SCR S-TPG BIN 3X8
14		613 100 8434	COMPL,PW-2(VHR-7810G)
15		411 021 4500	SCR S-TPG BIN 3X16
16		613 084 3029	STAND,BACK LEFT(VHR-7800G)
OR		613 081 6511	STAND,BACK LEFT(VHR-7810G)
17		613 077 3487	BLIND
18		411 021 3701	SCR S-TPG BIN 3X10
19		613 110 5720	COVER,TOP
20		412 024 7604	SPECIAL SCREW
21		613 097 3351	TERMINAL(INCLUDE CP-A)
22		613 111 8829	COMPL,TB-1
23		613 059 4198	SPRING PLATE
24		411 021 3800	SCR S-TPG BIN 3X10
25		613 112 5087	COMPL,AD-1
26		613 113 0371	COMPL,CP-A(VHR-7800G)
OR		613 115 5794	COMPL,CP-A(VHR-7810G)
27		613 108 4186	COMPL,VD-1
28		613 080 5836	MODULATOR,RF
OR		613 093 2990	MODULATOR,RF
29		613 108 3578	IF PACK
30		613 107 9403	TUNER PACK
31		613 104 3091	DECODER
32		613 109 4420	COMPL,TN-7
33		613 108 5534	COMPL,TM-8
34		613 088 1281	STAND,BACK RIGHT(VHR-7800G)
34		613 088 4435	STAND,BACK RIGHT(VHR-7810G)
35		613 094 7710	HOLDER(INCLUDE CP-A)
36		613 094 7727	HOLDER(INCLUDE CP-A)
37		613 113 3105	COMPL,CP-2
38		613 048 6912	BRACKET
39		613 081 5217	COVER,BOTTOM(VHR-7800G)
OR		613 081 5200	COVER,BOTTOM(VHR-7810G)
40		613 022 0738	BRACKET,CABINET
41		613 084 3012	STAND,FRONT(VHR-7800G)
OR		613 117 7246	STAND,FRONT(VHR-7810G)
43		613 089 7329	FRAME,PCB
44		613 112 7555	COMPL,TM-1
46		613 113 2337	FRAME
47		411 025 9303	SCR S-TPG PAN 2X6
48		613 113 2405	DOOR(VHR-7800G)
OR		613 115 4919	DOOR(VHR-7810G)
49		613 042 0183	BADGE
50		613 113 3426	ASSY,DOOR(VHR-7800G)
OR		613 115 5695	ASSY,DOOR(VHR-7810G)
51		613 113 4386	ASSY,CABINET,FRONT
52		613 113 9985	HOLDER,FRONT
53		613 118 7498	MAGNET
54		613 048 6561	BRACKET
55		613 113 9992	HOLDER,BACK
56		613 113 2665	SW,SPECIAL
57		613 113 2597	GEAR
58		411 023 1101	SCR S-TPG PAN 2.6X10
59		613 118 3889	COMPL,BRACKET
60		613 059 4792	DAMPER
61		412 024 6904	SPECIAL SCREW
62		613 113 3440	ASSY,BRACKET
64		613 118 3896	COMPL,BRACKET
65		613 091 8413	KNOB,T
66		613 091 8420	KNOB,U
67		613 112 7579	COMPL,TM-2
68		613 081 6405	CABINET,TOP(VHR-7810G)
69		613 100 9318	COMPL,IR-1(VHR-7810G)
70		613 081 6573	ESCUTCHEON(VHR-7810G)
71		613 081 6627	BUTTON(VHR-7810G)
72		613 081 6412	CABINET,BOTTOM(VHR-7810G)
73		613 081 6429	LID(VHR-7810G)



N.S.P.:Not available as service parts

MECHANISM PARTS 1

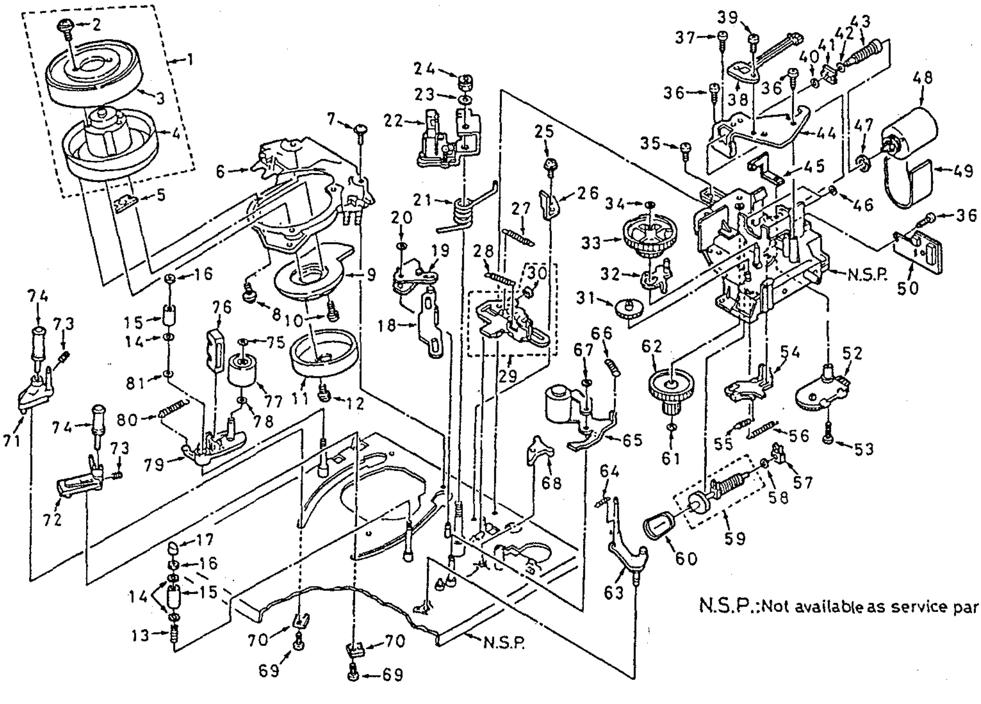
LOCATION	PARTS NO.	DESCRIPTION
1	613 087 4412	COMPL,CASSETTE MECHA
4	613 022 0585	LID
5	407 098 3201	PHOTO COUPLE PN150SAN
6	411 015 9801	RING E 2.3
7	613 022 1643	SPRING,LINK L
8	613 022 0073	ASSY,GEAR,LEVER L
9	613 022 2695	RACK
10	613 022 2633	GEAR,LOCK
11	613 021 9916	ASSY,LEVER,PINION
12	613 022 2626	GEAR,PINION
13	613 021 9657	ASSY,BRACKET,GEAR
14	411 027 1305	SCR S-TPG BIN 2.6×4
15	613 006 4479	SPECIAL SWITCH
OR	613 095 0949	SPECIAL SWITCH
16	411 106 9208	SCR PAN+SW+W 2×9
17	613 022 0936	HOLDER,TRANSISTOR
18	613 022 2619	GEAR,IDLER
19	613 022 1667	SPRING,GEAR MAIN
20	613 022 2596	GEAR,MAIN
21	613 022 0097	ASSY,GEAR,LEVER R
22	613 022 1674	SPRING,LINK R
24	613 022 4064	BOARD,UNDER
27	613 022 2237	LEVER,SAFETY SWITCH
28	613 022 1827	SPRING,SAFETY SWITCH
29	613 022 1803	SPRING,DOOR
30	613 114 4088	CASSETTE DOOR
31	411 001 8702	SCR BIN 3×6
40	613 100 0391	ASSY,LEVER,TENSION
41	613 085 7996	SPRING,LEVER TENSION
42	613 021 9701	ASSY,HOLDER,BAND
43	411 036 2805	SCR PAN+SW+W 2.6×6
44	411 109 1605	WASHER Y 2.6×6×0.25
45	613 078 8375	ASSY,REEL,SUPPLY
46	613 022 0110	ASSY,REEL,TAKE UP
47	412 021 5306	SPECIAL WASHER 3.1×6×0.3
OR	412 015 8900	SPECIAL WASHER 3.1×6×0.4
OR	412 015 8504	SPECIAL WASHER 3.1×6×0.5
48	411 109 1506	WASHER Y 2.1×6×0.25
OR	411 109 1407	WASHER Y 2.1×5×0.25
49	613 098 7174	GEAR,REEL SUPPLY
50	412 026 7305	SPECIAL WASHER 2.6×6×0.25
51	613 098 7181	GEAR,REEL TAKE UP
54	411 031 0905	SCR BIN 2.6×4
55	613 085 7101	COMPL,IDLER,CLUTCH
56	411 120 1301	WASHER Y 2.1×4×0.25
57	613 022 0134	ASSY,IDLER
58	411 021 3107	SCR S-TPG BIN 2.6×8
59	613 078 6302	COMPL,MC-4
60	407 016 7205	LED LN59
61	613 021 9985	ASSY,SLIDE,ACT PLATE
62	613 112 8088	SLIDE,CONTROL BRAKE
OR	613 021 9992	ASSY,SLIDE,C BRAKE
63	613 022 1612	SPRING,RETURN SLIDE
64	613 022 1506	SPRING,SUB T
65	613 098 0106	ASSY,BRAKE,SUB T
66	613 077 3647	PULLEY,REEL
67	613 022 1490	SPRING,SUB SUPPLY
68	613 022 2374	SLIDE,ACT BRAKE
69	613 084 8871	BRAKE,SUB SUPPLY
70	613 022 0004	ASSY,SLIDE,M PLATE
71	613 080 9216	ASSY,BRAKE,SUPPLY
72	613 086 2914	SPRING,MAIN BRAKE
73	613 080 9209	ASSY,BRAKE,TAKE UP
74	411 109 3005	WASHER Y 2.6×5×0.5
75	613 022 2015	LEVER,CONT PLATE
76	412 015 9501	SPECIAL WASHER
77	411 021 7907	SCR S-TPG BIN 4×12



N.S.P.: Not available as service parts

MECHANISM PARTS 2

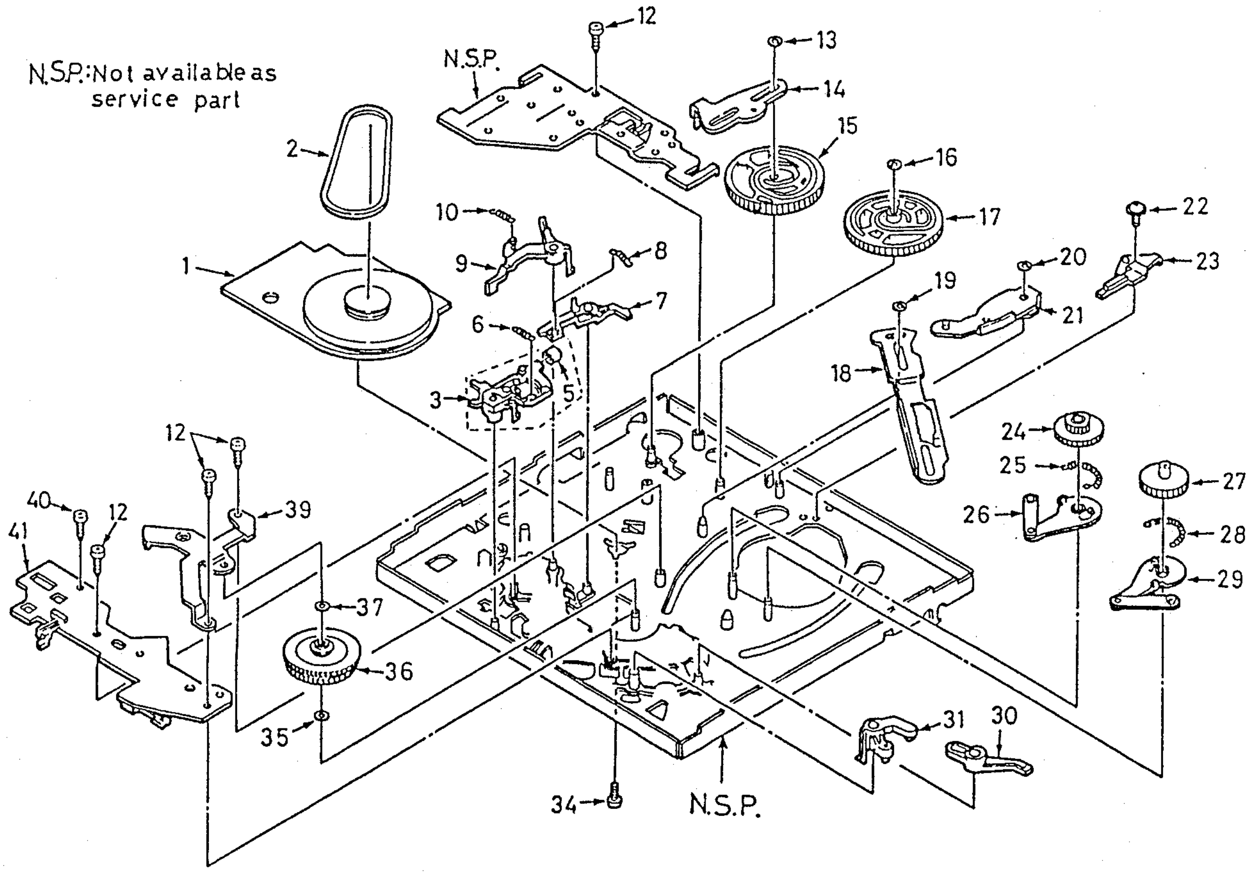
LOCATION	PARTS NO.	DESCRIPTION
1	613 099 5384	COMPL,CYLINDER,4HSP
OR	613 099 5391	COMPL,CYLINDER,4HSP
2	411 038 1608	SCR PAN+W 3×8
3	613 099 5414	ASSY,CYLINDER,UPR 4HSP
OR	613 099 5421	ASSY,CYLINDER,UPR 4HSP
4	613 099 5438	ASSY,CYLINDER,LWR 5P
OR	613 099 5445	ASSY,CYLINDER,LWR 5P
5	613 081 4036	SPACER,MOTOR
6	613 022 1001	BASE,CYLINDER
OR	613 088 9072	BASE,CYLINDER
7	411 047 7509	SCR PAN+FLG 3×6
8	411 047 5000	SCR PAN+FLG 2.6×8
OR	412 030 9708	SPECIAL SCREW 2.6×8
9	613 085 7279	STATOR,MOTOR CYLINDER
10	411 044 9209	SCR PAN+SW 2.3×8
OR	411 044 8301	SCR PAN+SW 2.3×10
11	613 022 4019	ROTOR,MOTOR CYLINDER
12	411 044 9001	SCR PAN+SW 2.3×6
13	613 022 1766	SPRING,ADJUST GUIDE
14	613 053 3227	SPECIAL WASHER
15	613 058 3307	TAPE GUIDE
16	412 026 2607	SPECIAL NUT (M3)
17	613 085 2434	CAP
18	613 021 9961	ASSY,SLIDE,ACT PINCH
19	613 021 9800	ASSY,LEVER,CAM PINCH
20	411 109 2008	WASHER Y 3.1×8×0.5
21	613 022 1797	SPRING,ACE HEAD
22	613 079 7971	COMPL,BRACKET,HEAD
23	613 051 4615	SPACER
OR	613 110 1692	SPACER
24	412 015 8207	SPECIAL NUT (M5)
25	411 120 0007	SCR PAN+SW+W 2.6×5
26	613 022 0752	BRACKET,STOPPER
27	613 022 1575	SPRING,LINK LOCK
28	613 022 1582	SPRING,SLIDE BRAKE
29	613 094 9233	ASSY,SLIDE,CAM
30	613 022 2725	DAMPER
31	613 022 2534	GEAR,FRONT LOAD
32	613 094 1206	ASSY,LEVER,FRONT
33	613 077 3586	GEAR,HELICAL FRONT
34	613 027 0504	WASHER 4.1×6.5×R5T
35	411 046 8002	SCR PAN+SW+W 2.6×6
36	411 023 2801	SCR S-TPG PAN 2.6×6
37	411 021 3107	SCR S-TPG BIN 2.6×8
38	613 089 4328	ASSY,SENSOR,DEW
39	411 040 2303	SCR PAN 2.6×5
40	613 053 2381	SPECIAL WASHER
41	613 077 3227	HOLDER,WORM
42	613 027 0382	WASHER
43	613 078 8320	ASSY,WORM,FRONT
44	613 117 0599	BRACKET,HOLDER
OR	613 111 8522	BRACKET,HOLDER
OR	613 110 1203	BRACKET,HOLDER
OR	613 092 5862	BRACKET,HOLDER
45	613 093 9159	PLATE,NUT
46	613 093 8374	DAMPER,MOTOR
47	613 077 3616	DAMPER,WORM
48	613 021 9527	ASSY,LOADING MOTOR
49	613 092 9945	DAMPER,MOTOR
50	613 107 2732	COMPL,MC-3
52	613 110 0374	ROTARY SWITCH
53	411 126 5303	SCR PAN 2.6×13
54	613 092 9921	ASSY,SLIDE,FRONT
55	613 092 5985	SPRING,LEVER LOAD
56	613 092 5992	SPRING,LEVER ACT
57	613 092 5886	HOLDER,WORM
58	613 027 0627	WASHER 2.1×6×0.5
59	613 092 9938	ASSY,WORM,LOAD
60	613 022 2985	BELT,LOADING
61	412 033 4106	WASHER SLIT 2.6×5×0.5
62	613 077 3579	GEAR,HELICAL
63	613 102 9293	ASSY,LEVER,REV GUIDE
64	613 022 1568	SPRING,REVIEW LEVER
65	613 022 0158	COMPL,PINCH ROLLER
66	613 022 1483	SPRING,PINCH ROLLER
67	411 109 2107	WASHER Y 3.6×6×0.5
68	613 078 8160	COMPL,LEVER,ACT BRAKE
69	411 031 1209	SCR BIN 2.6×5
70	613 022 1919	PLATE,GUIDE
71	613 021 9725	ASSY,BASE,ROLLER S
72	613 021 9732	ASSY,BASE,ROLLER T
73	411 063 0904	SCR SET HEX-SCT 2×3
74	613 022 0233	ASSY,GUIDE,ROLLER
75	411 109 2602	WASHER Y 1.5×4×0.25
76	613 022 4224	HEAD,FULL ERASE
77	613 022 2817	IMPEDACE ROLLER
78	412 032 5807	SPECIAL WASHER 2.1×5×0.13
79	613 093 8305	ASSY,LEVER,FE HEAD
80	613 022 1698	SPRING,ERASE HEAD
81	411 109 1704	WASHER Y 6.4×10×0.25



N.S.P.:Not available as service parts

MECHANISM PARTS 3

LOCATION	PARTS NO.	DESCRIPTION
1	613 022 4491	MOTOR,CAPSTAN
2	613 022 2978	BELT,REEL DRIVE
3	613 021 9848	ASSY,LEVER,CLUTCH
5	613 079 1023	DAMPER,LEVER CLUTCH
6	613 022 1520	SPRING,LEVER CLUTCH
7	613 082 3434	LEVER,CHANGE CLUTCH
8	613 022 1711	SPRING,CHANGE CLUTCH
9	613 081 7518	ASSY,BRAKE CAPSTAN
10	613 098 2285	SPRING,CAPSTAN
12	411 021 3107	SCR S-TPG BIN 2.6×8
13	411 109 2008	WASHER Y 3.1×8×0.5
14	613 021 9978	ASSY,SLIDE,CAM PLATE
15	613 022 2701	CAM,MODE
16	411 109 1902	WASHER Y 3.1×6×0.5
17	613 022 2718	CAM,MAIN
18	613 022 2664	RACK,LOAD
19	411 109 1803	WASHER Y 2.6×6×0.5
20	411 109 2107	WASHER Y 3.6×6×0.5
OR	411 109 2206	WASHER Y 3.6×8×0.5
21	613 021 9794	ASSY,LEVER,CAM LOAD
22	411 047 6809	SCR PAN+FLG 3×4
23	613 021 9763	ASSY,EARTH,CYLINDER
24	613 090 6380	GEAR,LOAD TAKE UP
25	613 022 1551	SPRING,GEAR LOAD T
26	613 021 9879	ASSY,LEVER,LOAD T
27	613 090 6373	GEAR,LOAD SUPPLY
28	613 022 1704	SPRING,GEAR LOAD S
29	613 021 9862	ASSY,LEVER,LOAD S
30	613 022 2039	LEVER,RETURN TENSION
31	613 091 3104	ASSY,LEVER CONTROL
34	411 040 2303	SCR PAN 2.6×5
35	412 015 8603	SPECIAL WASHER 3.1×6×0.25
36	613 102 0900	ASSY,GEAR,FRICTION
37	411 109 1605	WASHER Y 2.6×6×0.25
39	613 079 8121	BRACKET,PULLEY
40	411 100 0300	SCR S-TPG BIN 2.6×5
41	613 110 1357	COMPL,MC-1
R1	401 026 0607	CARBON 270 JA 1/6W
OR	401 017 0708	CARBON 270 JA 1/4W
R2	401 024 6700	CARBON 100 JA 1/6W
OR	401 012 4404	CARBON 100 JA 1/4W
R3	401 026 0607	CARBON 270 JA 1/6W
OR	401 017 0708	CARBON 270 JA 1/4W
D1	407 094 1300	PHOTO COUPLE SPI-315-04-C
OR	407 043 0101	PHOTO DIODE ON2170-R
D2	407 094 1300	PHOTO COUPLE SPI-315-04-C
OR	407 043 0101	PHOTO DIODE ON2170-R
SW1	613 022 4545	SPECIAL SWITCH,EP



ELECTRICAL PARTS

NOTE;

*Materials of Capacitors and Resistors are abbreviated as follows;

Resistors

MT-FILE	Metal Film Resistor
MT-GLAZE	Metal Glaze Resistor
OXIDE-MT	Oxide Metal Film Resistor

Capacitors

MT-POLYEST	Metallized Polyester Capacitor
MT-COMPO	Metallized Composite Capacitor
TA-SOLID	Tantalum Solid Capacitor
AL-SOLID	Aluminum Solid Capacitor
NP-ELECT	Non-Polarized Electrolytic Capacitor
OS-SOLID	Aluminum Solid Capacitors with Organic Semiconductive Electrolytic Capacitor
DL-ELECT	Double Layered Electrolytic Capacitor

*Tolerance of Capacitor(10pF over) and Resistor are noted with follow symboles.

F ············ ±1% G ············ ±2% J ············ ±5% K ············ ±10%

M ············ ±20% N ············ ±30% Z ············ +80% ~ −20%

*N.S.P. : Not available as service parts.

LOCATION	PARTS NO.	DESCRIPTION
COMPL,CP-A		
COMPL.NO.	613 113 0371	(VHR-7800G)
COMPL.NO.	613 115 5794	(VHR-7810G)
	613 079 8138	HOLDER,AD-1
VIDEO CIRCUIT(VD-A)		
B1001	405 000 6104	TR DTC144ES-DCTP
OR	405 018 2501	TR 2SC3399-AC
B1201	405 000 6104	TR DTC144ES-DCTP
OR	405 018 2501	TR 2SC3399-AC
B1601	405 000 6104	TR DTC144ES-DCTP
OR	405 018 2501	TR 2SC3399-AC
B1651	405 000 6104	TR DTC144ES-DCTP
OR	405 018 2501	TR 2SC3399-AC
C1001	403 025 7007	CERAMIC 4.7P D 50V
C1002	403 073 2702	CERAMIC 390P J 50V
C1003	403 026 2209	CERAMIC 47P J 50V
C1004	403 179 4501	NP-ELECT 0.47U M 50V
C1005	403 150 1703	CERAMIC 91P J 50V
C1006	403 071 1509	CERAMIC 180P J 50V
C1007	403 075 4001	CERAMIC 820P J 50V
C1008	403 134 4706	NP-ELECT 2.2U M 50V
C1009	403 001 1906	CERAMIC 0.01U M 16V
C1010	403 121 3408	ELECT 2.2U M 50V
C1011	403 130 2904	ELECT 0.47U M 50V
C1012	403 075 3103	CERAMIC 82P J 50V
C1013	403 068 8801	CERAMIC 100P J 50V
C1014	403 063 2200	POLYESTER 0.068U K 50V
C1015	403 001 1906	CERAMIC 0.01U M 16V
C1016	403 001 1906	CERAMIC 0.01U M 16V
C1017	403 001 1906	CERAMIC 0.01U M 16V
C1018	403 139 1007	ELECT 47U M 6.3V
C1019	403 121 3408	ELECT 2.2U M 50V
C1020	403 107 9905	ELECT 10U M 16V
C1021	403 121 3408	ELECT 2.2U M 50V
C1023	403 001 1906	CERAMIC 0.01U M 16V
C1024	403 121 2104	ELECT 22U M 10V
C1025	403 130 2904	ELECT 0.47U M 50V
C1031	403 001 1906	CERAMIC 0.01U M 16V
C1032	403 135 5009	ELECT 47U M 10V
C1033	403 001 1906	CERAMIC 0.01U M 16V
C1034	403 001 1906	CERAMIC 0.01U M 16V
C1035	403 121 3002	ELECT 4.7U M 25V
C1036	403 109 6308	ELECT 1U M 50V
C1037	403 026 2209	CERAMIC 47P J 50V
C1038	403 025 7007	CERAMIC 4.7P D 50V
C1039	403 026 2209	CERAMIC 47P J 50V
C1043	403 073 6205	CERAMIC 470P J 50V
C1051	403 001 1906	CERAMIC 0.01U M 16V
C1058	403 026 2209	CERAMIC 47P J 50V
C1060	403 002 4708	CERAMIC 0.1U Z 25V
C1062	403 074 8703	CERAMIC 680P J 50V
C1063	403 022 7703	CERAMIC 33P J 50V
C1065	403 026 2209	CERAMIC 47P J 50V
C1101	403 003 2505	CERAMIC 0.022U J 25V
C1102	403 001 1906	CERAMIC 0.01U M 16V
C1103	403 109 6308	ELECT 1U M 50V
C1104	403 001 1906	CERAMIC 0.01U M 16V
C1105	403 109 6308	ELECT 1U M 50V
C1106	403 139 2707	ELECT 1U M 50V
C1107	403 003 2505	CERAMIC 0.022U J 25V
C1108	403 104 8505	CERAMIC 0.047U J 25V
C1109	403 001 1906	CERAMIC 0.01U M 16V
C1111	403 001 1906	CERAMIC 0.01U M 16V
C1112	403 109 6308	ELECT 1U M 50V
C1113	403 104 8505	CERAMIC 0.047U J 25V
C1114	403 025 8608	CERAMIC 43P J 50V
C1115	403 150 1703	CERAMIC 91P J 50V
C1116	403 001 1906	CERAMIC 0.01U M 16V
C1117	403 135 4002	ELECT 47U M 6.3V
C1118	403 068 8801	CERAMIC 100P J 50V
C1119	403 001 1906	CERAMIC 0.01U M 16V
C1120	403 093 8104	OS-SOLID 4.7U M 10V
C1121	403 001 1906	CERAMIC 0.01U M 16V
C1124	403 073 8407	CERAMIC 4700P K 50V
C1125	403 070 3702	CERAMIC 120P J 50V
C1126	403 001 1906	CERAMIC 0.01U M 16V
C1128	403 071 6207	CERAMIC 220P K 50V
C1201	403 075 4001	CERAMIC 820P J 50V
C1401	403 139 2202	ELECT 4.7U M 25V
C1506	403 028 3402	CERAMIC 56P J 50V
C1601	403 107 9905	ELECT 10U M 16V
C1602	403 107 9905	ELECT 10U M 16V
C1603	403 068 9402	CERAMIC 100P K 50V
C1604	403 002 4708	CERAMIC 0.1U Z 25V
C1605	403 135 4101	ELECT 470U M 6.3V
C1608	403 121 2104	ELECT 22U M 10V
C1609	403 093 9606	OS-SOLID 1U M 16V
C1631	403 022 7703	CERAMIC 33P J 50V
C1632	403 024 1501	CERAMIC 39P J 50V
C1682	403 012 6006	CERAMIC 15P J 50V
D1001	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D1002	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D1003	407 007 9904	DIODE GMA01-BT

LOCATION	PARTS NO.	DESCRIPTION
D1003	407 012 4406	DIODE 1SS133-T-77
D1031	407 070 8408	ZENER DIODE GZS9.1Y-TB
OR	407 053 8906	ZENER DIODE MTZ9.1C-T-77
D1311	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D1312	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D1313	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D1601	407 070 7104	ZENER DIODE GZS5.6X-BT
OR	407 053 6704	ZENER DIODE MTZ5.6B-T-77
D1603	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D1604	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D1606	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D1651	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D1652	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D1653	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
DL131	613 110 0367	DELAY,2H
OR	613 110 1708	DELAY,2H
IC101	409 178 3309	IC LA7340
IC102	409 171 9209	IC LC8992
IC111	409 208 7208	IC LA7332
IC161	409 120 3401	IC LA7221
L1001	613 014 0951	COIL,INDUCTOR 68UHK
L1031	613 014 0968	COIL,INDUCTOR 82UHK
L1033	613 014 0739	COIL,INDUCTOR 1.0UHM
L1054	613 014 0876	COIL,INDUCTOR 15UHK
L1055	613 014 0876	COIL,INDUCTOR 15UHK
L1056	613 014 0975	COIL,INDUCTOR 100UHK
L1057	613 014 0821	COIL,INDUCTOR 5.6UHK
L1058	613 014 0944	COIL,INDUCTOR 56UHK
L1101	613 014 0883	COIL,INDUCTOR 18UHK
L1102	613 014 0791	COIL,INDUCTOR 3.3UHK
L1103	613 014 0876	COIL,INDUCTOR 15UHK
L1104	613 015 6327	COIL,INDUCTOR 1MHJ
L1105	613 014 0937	COIL,INDUCTOR 47UHK
L1631	613 014 0975	COIL,INDUCTOR 100UHK
L1681	613 014 0777	COIL,INDUCTOR 2.2UHM
Q1001	405 093 0508	TR KSA1175-Y
OR	405 004 4007	TR 2SA608-E-SPA-AC
OR	405 004 4601	TR 2SA608-F-SPA-AC
OR	405 006 1707	TR 2SA933S-TP-Q
OR	405 006 1806	TR 2SA933S-T93-R
Q1002	405 093 0607	TR KSC2785-Y
OR	405 011 8401	TR 2SC1740S-DCTP-Q
OR	405 011 8500	TR 2SC1740S-DCTP-R
OR	405 019 2005	TR 2SC536-E-SPA-AC
OR	405 019 2807	TR 2SC536-F-SPA-AC
Q1003	405 093 0607	TR KSC2785-Y
OR	405 011 8401	TR 2SC1740S-DCTP-Q
OR	405 011 8500	TR 2SC1740S-DCTP-R
OR	405 019 2005	TR 2SC536-E-SPA-AC
OR	405 019 2807	TR 2SC536-F-SPA-AC
Q1004	405 093 0607	TR KSC2785-Y
OR	405 011 8401	TR 2SC1740S-DCTP-Q
OR	405 011 8500	TR 2SC1740S-DCTP-R
OR	405 019 2005	TR 2SC536-E-SPA-AC
OR	405 019 2807	TR 2SC536-F-SPA-AC
Q1031	405 093 0508	TR KSA1175-Y
Q1031	405 004 4007	TR 2SA608-E-SPA-AC
OR	405 004 4601	TR 2SA608-F-SPA-AC
OR	405 006 1707	TR 2SA933S-TP-Q
OR	405 006 1806	TR 2SA933S-T93-R
Q1032	405 093 0607	TR KSC2785-Y
OR	405 011 8401	TR 2SC1740S-DCTP-Q
OR	405 011 8500	TR 2SC1740S-DCTP-R
OR	405 019 2005	TR 2SC536-E-SPA-AC
OR	405 019 2807	TR 2SC536-F-SPA-AC
Q1052	405 012 9506	TR 2SC2058S-DCTP-Q
OR	405 015 2504	TR 2SC2669-O-TPE4
OR	405 015 2603	TR 2SC2669-Y-TPE4
OR	405 016 0905	TR 2SC2839-E-SPA-AC
OR	405 016 1100	TR 2SC2839-F-SPA-AC
Q1054	405 016 0905	TR 2SC2839-E-SPA-AC
OR	405 016 1100	TR 2SC2839-F-SPA-AC
OR	405 015 2603	TR 2SC2669-Y-TPE4
OR	405 015 2504	TR 2SC2669-O-TPE4
OR	405 012 9506	TR 2SC2058S-DCTP-Q
Q1101	405 093 0508	TR KSA1175-Y
OR	405 004 4007	TR 2SA608-E-SPA-AC
OR	405 004 4601	TR 2SA608-F-SPA-AC
OR	405 006 1707	TR 2SA933S-TP-Q
OR	405 006 1806	TR 2SA933S-T93-R
Q1102	405 093 0607	TR KSC2785-Y
OR	405 011 8401	TR 2SC1740S-DCTP-Q
OR	405 011 8500	TR 2SC1740S-DCTP-R
OR	405 019 2005	TR 2SC536-E-SPA-AC
OR	405 019 2807	TR 2SC536-F-SPA-AC
Q1103	405 093 0607	TR KSC2785-Y
OR	405 011 8401	TR 2SC1740S-DCTP-Q
OR	405 011 8500	TR 2SC1740S-DCTP-R
OR	405 019 2005	TR 2SC536-E-SPA-AC
OR	405 019 2807	TR 2SC536-F-SPA-AC
Q1104	405 093 0607	TR KSC2785-Y
OR	405 011 8401	TR 2SC1740S-DCTP-Q
OR	405 011 8500	TR 2SC1740S-DCTP-R
OR	405 019 2005	TR 2SC536-E-SPA-AC
OR	405 019 2807	TR 2SC536-F-SPA-AC
Q1105	405 093 0607	TR KSC2785-Y
OR	405 011 8401	TR 2SC1740S-DCTP-Q
OR	405 011 8500	TR 2SC1740S-DCTP-R
OR	405 019 2005	TR 2SC536-E-SPA-AC
OR	405 019 2807	TR 2SC536-F-SPA-AC
Q1106	405 093 0607	TR KSC2785-Y
OR	405 011 8401	TR 2SC1740S-DCTP-Q
OR	405 011 8500	TR 2SC1740S-DCTP-R
OR	405 019 2005	TR 2SC536-E-SPA-AC
OR	405 019 2807	TR 2SC536-F-SPA-AC
Q1151	405 004 4007	TR 2SA608-E-SPA-AC
OR	405 004 4601	TR 2SA608-F-SPA-AC
OR	405 006 1707	TR 2SA933S-TP-Q
OR	405 006 1806	TR 2SA933S-T93-R
OR	405 093 0508	TR KSA1175-Y
Q1401	405 093 0607	TR KSC2785-Y
OR	405 011 8401	TR 2SC1740S-DCTP-Q
OR	405 011 8500	TR 2SC1740S-DCTP-R
OR	405 019 2005	TR 2SC536-E-SPA-AC
OR	405 019 2807	TR 2SC536-F-SPA-AC
Q1402	405 006 6504	TR 2SA984-E-AA
OR	405 006 6702	TR 2SA984-F-AA
Q1403	405 093 0607	TR KSC2785-Y
OR	405 011 8401	TR 2SC1740S-DCTP-Q
OR	405 011 8500	TR 2SC1740S-DCTP-R
OR	405 019 2005	TR 2SC536-E-SPA-AC
OR	405 019 2807	TR 2SC536-F-SPA-AC
Q1404	405 089 0109	TR 2SA1707-T-AN
OR	405 034 7905	TR 2SB1240-TV2-R
Q1601	405 004 4601	TR 2SA608-F-SPA-AC

LOCATION	PARTS NO.	DESCRIPTION
Q1601	405 006 1806	TR 2SA933S-T93-R
Q1602	405 093 0508	TR KSA1175-Y
OR	405 004 4007	TR 2SA608-E-SPA-AC
OR	405 004 4601	TR 2SA608-F-SPA-AC
OR	405 006 1707	TR 2SA933S-TP-Q
OR	405 006 1806	TR 2SA933S-T93-R
Q1631	405 093 0607	TR KSC2785-Y
OR	405 011 8401	TR 2SC1740S-DCTP-Q
OR	405 011 8500	TR 2SC1740S-DCTP-R
OR	405 019 2005	TR 2SC536-E-SPA-AC
OR	405 019 2807	TR 2SC536-F-SPA-AC
Q1651	405 093 0508	TR KSA1175-Y
OR	405 004 4007	TR 2SA608-E-SPA-AC
OR	405 004 4601	TR 2SA608-F-SPA-AC
OR	405 006 1707	TR 2SA933S-TP-Q
OR	405 006 1806	TR 2SA933S-T93-R
R1001	401 020 1907	CARBON 4.7K JA 1/4W
R1002	401 017 1705	CARBON 2.7K JA 1/4W
R1003	401 022 1806	CARBON 680 JA 1/4W
R1004	401 012 9201	CARBON 1M JA 1/4W
R1005	401 012 5609	CARBON 1K JA 1/4W
R1006	401 017 1705	CARBON 2.7K JA 1/4W
R1007	401 012 5609	CARBON 1K JA 1/4W
R1008	401 023 1607	CARBON 820 JA 1/4W
R1009	401 012 5609	CARBON 1K JA 1/4W
R1010	401 017 8506	CARBON 300 JA 1/4W
R1011	401 015 2605	CARBON 1.8K JA 1/4W
R1012	401 015 4609	CARBON 180K JA 1/4W
R1013	401 012 9201	CARBON 1M JA 1/4W
R1014	401 016 3700	CARBON 2.2K JA 1/4W
R1015	401 023 2703	CARBON 8.2K JA 1/4W
R1016	401 013 5202	CARBON 1.2K JA 1/4W
R1017	401 018 4804	CARBON 33K JA 1/4W
R1018	401 012 5609	CARBON 1K JA 1/4W
R1019	401 016 2505	CARBON 220 JA 1/4W
R1020	401 020 3802	CARBON 470K JA 1/4W
R1021	401 014 6000	CARBON 150K JA 1/4W
R1022	401 022 1806	CARBON 680 JA 1/4W
R1023	401 016 4707	CARBON 22K JA 1/4W
R1024	401 020 2805	CARBON 47K JA 1/4W
R1025	401 016 3700	CARBON 2.2K JA 1/4W
R1026	401 012 5609	CARBON 1K JA 1/4W
R1031	401 012 5609	CARBON 1K JA 1/4W
R1032	401 018 9700	CARBON 39 JA 1/4W
R1033	401 018 9700	CARBON 39 JA 1/4W
R1034	401 018 9700	CARBON 39 JA 1/4W
R1051	401 016 4707	CARBON 22K JA 1/4W
R1052	401 016 4707	CARBON 22K JA 1/4W
R1056	401 019 0904	CARBON 390 JA 1/4W
R1057	401 012 5609	CARBON 1K JA 1/4W
R1066	401 023 1607	CARBON 820 JA 1/4W
R1067	401 023 1607	CARBON 820 JA 1/4W
R1068	401 021 1807	CARBON 560 JA 1/4W
R1071	401 016 2505	CARBON 220 JA 1/4W
R1072	401 019 0904	CARBON 390 JA 1/4W
R1101	401 020 2805	CARBON 47K JA 1/4W
R1102	401 016 4707	CARBON 22K JA 1/4W
R1103	401 012 5609	CARBON 1K JA 1/4W
R1104	401 013 5202	CARBON 1.2K JA 1/4W
R1105	401 018 2701	CARBON 330 JA 1/4W
R1106	401 021 1807	CARBON 560 JA 1/4W
R1107	401 012 5609	CARBON 1K JA 1/4W
R1108	401 012 5609	CARBON 1K JA 1/4W
R1109	401 012 6903	CARBON 10K JA 1/4W
R1110	401 023 2703	CARBON 8.2K JA 1/4W
R1111	401 012 5609	CARBON 1K JA 1/4W
R1112	401 015 2605	CARBON 1.8K JA 1/4W
R1113	401 012 8006	CARBON 100K JA 1/4W

LOCATION	PARTS NO.	DESCRIPTION
R1114	401 019 0904	CARBON 390 JA 1/4W
R1115	401 012 5609	CARBON 1K JA 1/4W
R1116	401 019 1802	CARBON 3.9K JA 1/4W
R1117	401 014 4006	CARBON 1.5K JA 1/4W
R1118	401 022 7105	CARBON 750 JA 1/4W
R1119	401 012 5609	CARBON 1K JA 1/4W
R1120	401 012 4404	CARBON 100 JA 1/4W
R1121	401 012 5609	CARBON 1K JA 1/4W
R1122	401 020 0702	CARBON 470 JA 1/4W
R1123	401 014 4006	CARBON 1.5K JA 1/4W
R1124	401 015 8805	CARBON 200 JA 1/4W
R1125	401 022 1806	CARBON 680 JA 1/4W
R1126	401 012 5609	CARBON 1K JA 1/4W
R1127	401 013 4106	CARBON 120 JA 1/4W
R1128	401 012 5609	CARBON 1K JA 1/4W
R1152	401 012 5609	CARBON 1K JA 1/4W
R1311	401 013 6308	CARBON 12K JA 1/4W
R1401	401 016 4707	CARBON 22K JA 1/4W
R1402	401 016 4707	CARBON 22K JA 1/4W
R1403	401 020 1907	CARBON 4.7K JA 1/4W
R1404	401 020 1907	CARBON 4.7K JA 1/4W
R1405	401 020 2805	CARBON 47K JA 1/4W
R1406	401 020 2805	CARBON 47K JA 1/4W
R1407	401 015 2605	CARBON 1.8K JA 1/4W
R1408	401 016 2505	CARBON 220 JA 1/4W
R1508	401 019 0904	CARBON 390 JA 1/4W
R1603	401 012 6903	CARBON 10K JA 1/4W
R1606	401 012 5609	CARBON 1K JA 1/4W
R1607	401 021 1807	CARBON 560 JA 1/4W
R1608	401 022 6702	CARBON 75 JA 1/4W
R1609	401 013 9408	CARBON 1.3K JA 1/4W
R1610	401 021 1807	CARBON 560 JA 1/4W
R1611	401 012 5609	CARBON 1K JA 1/4W
R1613	401 016 4707	CARBON 22K JA 1/4W
R1631	401 021 2903	CARBON 5.6K JA 1/4W
R1632	401 012 5609	CARBON 1K JA 1/4W
R1633	401 023 1607	CARBON 820 JA 1/4W
R1634	401 015 2605	CARBON 1.8K JA 1/4W
R1641	401 015 2605	CARBON 1.8K JA 1/4W
R1651	401 012 6903	CARBON 10K JA 1/4W
R1652	401 012 5609	CARBON 1K JA 1/4W
R1653	401 021 2903	CARBON 5.6K JA 1/4W
R1654	401 021 2903	CARBON 5.6K JA 1/4W
R1655	401 016 4707	CARBON 22K JA 1/4W
R1656	401 021 0602	CARBON 56 JA 1/4W
VR101	613 001 8977	SEMI VR 1KB
OR	613 001 9370	SEMI VR 1KB
OR	613 079 2525	VR,SEMI 1KB
VR102	613 001 9035	SEMI VR 10KB
OR	613 001 9417	SEMI VR 10KB
OR	613 079 2532	VR,SEMI 10KB
VR103	613 001 9417	SEMI VR 10KB
OR	613 001 9035	SEMI VR 10KB
OR	613 079 2532	VR,SEMI 10KB
VR104	613 001 9035	SEMI VR 10KB
OR	613 001 9417	SEMI VR 10KB
OR	613 079 2532	VR,SEMI 10KB
VR105	613 001 8977	SEMI VR 1KB
OR	613 001 9370	SEMI VR 1KB
OR	613 079 2525	VR,SEMI 1KB
X1101	613 080 9407	OSC,CRYSTAL 4.43MHZ
OR	613 093 8008	OSC,CRYSTAL 4.433619MHZ
XF101	613 004 5539	LC PACK 4MHZ LPF
XF111	613 004 5485	LC PACK

LOCATION	PARTS NO.	DESCRIPTION
AUDIO CIRCUIT(AD-A)		
B2303	405 076 6404	TR DTC343T-STP
B2304	405 076 6404	TR DTC343T-STP
B2403	405 076 6404	TR DTC343T-STP
B2404	405 076 6404	TR DTC343T-STP
B2501	405 018 2501	TR 2SC3399-AC
OR	405 000 6104	TR DTC144ES-DCTP
B2502	405 003 7702	TR 2SA1346-AC
B2503	405 018 2501	TR 2SC3399-AC
OR	405 000 6104	TR DTC144ES-DCTP
B2505	405 063 9708	TR DTC144EL-TL2
B2506	405 018 2501	TR 2SC3399-AC
OR	405 000 6104	TR DTC144ES-DCTP
B2507	405 003 7702	TR 2SA1346-AC
B2508	405 018 2501	TR 2SC3399-AC
OR	405 000 6104	TR DTC144ES-DCTP
B2509	405 018 2501	TR 2SC3399-AC
OR	405 000 6104	TR DTC144ES-DCTP
B2510	405 003 7702	TR 2SA1346-AC
B2512	405 003 7702	TR 2SA1346-AC
B2514	405 018 2501	TR 2SC3399-AC
OR	405 000 6104	TR DTC144ES-DCTP
B2515	405 018 2501	TR 2SC3399-AC
B2518	405 018 2808	TR 2SC3402-AC
B2519	405 018 2501	TR 2SC3399-AC
OR	405 000 6104	TR DTC144ES-DCTP
B2651	405 018 2501	TR 2SC3399-AC
B2652	405 003 7603	TR 2SA1345-AC
B2653	405 018 2501	TR 2SC3399-AC
B2654	405 018 2501	TR 2SC3399-AC
B2655	405 018 2501	TR 2SC3399-AC
B2656	405 018 2501	TR 2SC3399-AC
B2657	405 018 2501	TR 2SC3399-AC
B2658	405 018 2501	TR 2SC3399-AC
B2659	405 018 2501	TR 2SC3399-AC
B2660	405 018 2501	TR 2SC3399-AC
B2661	405 018 2501	TR 2SC3399-AC
C2301	403 121 3002	ELECT 4.7U M 25V
C2302	403 121 3002	ELECT 4.7U M 25V
C2303	403 121 3002	ELECT 4.7U M 25V
C2304	403 001 1609	CERAMIC 0.01U K 16V
C2305	403 129 5602	ELECT 33U M 10V
C2306	403 107 9905	ELECT 10U M 16V
C2307	403 107 9509	ELECT 100U M 10V
C2308	403 135 5009	ELECT 47U M 10V
C2309	403 134 9602	ELECT 47U M 16V
C2310	403 107 9905	ELECT 10U M 16V
C2311	403 129 5602	ELECT 33U M 10V
C2312	403 001 1609	CERAMIC 0.01U K 16V
C2313	403 134 8100	ELECT 100U M 6.3V
C2314	403 001 3801	CERAMIC 1500P K 16V
C2315	403 073 7004	CERAMIC 470P K 50V
C2318	403 001 1609	CERAMIC 0.01U K 16V
C2319	403 135 3500	ELECT 220U M 6.3V
C2320	403 135 5009	ELECT 47U M 10V
C2321	403 073 7004	CERAMIC 470P K 50V
C2401	403 121 3002	ELECT 4.7U M 25V
C2402	403 121 3002	ELECT 4.7U M 25V
C2403	403 121 3002	ELECT 4.7U M 25V
C2404	403 001 1609	CERAMIC 0.01U K 16V
C2405	403 129 5602	ELECT 33U M 10V
C2406	403 107 9905	ELECT 10U M 16V
C2407	403 107 9509	ELECT 100U M 10V
C2408	403 135 5009	ELECT 47U M 10V
C2409	403 134 9602	ELECT 47U M 16V
C2410	403 107 9905	ELECT 10U M 16V
C2411	403 129 5602	ELECT 33U M 10V
C2412	403 001 1609	CERAMIC 0.01U K 16V
C2413	403 134 8100	ELECT 100U M 6.3V
C2414	403 001 3801	CERAMIC 1500P K 16V
C2415	403 073 7004	CERAMIC 470P K 50V
C2418	403 001 1609	CERAMIC 0.01U K 16V
C2419	403 135 3500	ELECT 220U M 6.3V
C2420	403 135 5009	ELECT 47U M 10V
C2421	403 073 7004	CERAMIC 470P K 50V
C2501	403 135 7805	ELECT 3.3U M 50V
C2502	403 134 9602	ELECT 47U M 16V
C2503	403 107 9905	ELECT 10U M 16V
C2504	403 125 5606	ELECT 100U M 16V
C2505	403 001 1609	CERAMIC 0.01U K 16V
C2506	403 069 1207	CERAMIC 1000P K 50V
C2507	403 073 6205	CERAMIC 470P J 50V
C2508	403 135 3708	ELECT 33U M 6.3V
C2509	403 121 3002	ELECT 4.7U M 25V
C2510	403 107 9905	ELECT 10U M 16V
C2511	403 107 9905	ELECT 10U M 16V
C2513	403 121 3408	ELECT 2.2U M 50V
C2514	403 134 9602	ELECT 47U M 16V
C2515	403 001 1609	CERAMIC 0.01U K 16V
C2517	403 003 6701	CERAMIC 0.033U K 25V
C2518	403 125 5606	ELECT 100U M 16V
C2520	403 135 5009	ELECT 47U M 10V
C2521	403 069 1207	CERAMIC 1000P K 50V
C2522	403 001 1609	CERAMIC 0.01U K 16V
C2525	403 028 3402	CERAMIC 56P J 50V
C2651	403 134 9602	ELECT 47U M 16V
C2652	403 107 9905	ELECT 10U M 16V
C2653	403 121 3408	ELECT 2.2U M 50V
C2654	403 107 9905	ELECT 10U M 16V
D2501	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D2502	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D2504	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D2505	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D2507	407 012 4406	DIODE 1SS133-T-77
D2509	407 053 6308	ZENER DIODE MTZ5.1B-T-77
D2510	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D2511	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D2512	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D2513	407 012 4406	DIODE 1SS133-T-77
D2514	407 012 4406	DIODE 1SS133-T-77
D2515	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D2651	407 012 4406	DIODE 1SS133-T-77
D2653	407 012 4406	DIODE 1SS133-T-77
D2654	407 012 4406	DIODE 1SS133-T-77
D2655	407 012 4406	DIODE 1SS133-T-77
D2656	407 012 4406	DIODE 1SS133-T-77
D2657	407 012 4406	DIODE 1SS133-T-77
D2658	407 012 4406	DIODE 1SS133-T-77
D2659	407 012 4406	DIODE 1SS133-T-77
D2660	407 012 4406	DIODE 1SS133-T-77
D2661	407 012 4406	DIODE 1SS133-T-77
D2662	407 012 4406	DIODE 1SS133-T-77
D2663	407 012 4406	DIODE 1SS133-T-77
IC231	409 226 4906	IC UPC2354GF
IC232	409 036 8309	IC M5236L-TC04A-31
IC233	409 039 7309	IC NJM4556S

LOCATION	PARTS NO.	DESCRIPTION
IC261	409 018 7603	IC LA7016
L2301	613 015 6730	COIL,INDUCTOR 100UHK
L2401	613 015 6730	COIL,INDUCTOR 100UHK
Q2502	405 007 3106	TR 2SB544-F-MP-AE
Q2503	405 089 2103	TR 2SC4483-S-AN
Q2651	405 033 6706	TR 2SD1468S-DCTP-R
Q2652	405 019 1909	TR 2SC536-E-NP-AA
Q2653	405 019 1909	TR 2SC536-E-NP-AA
R2301	401 017 2702	CARBON 27K JA 1/4W
R2302	401 020 2805	CARBON 47K JA 1/4W
R2303	401 015 3701	CARBON 18K JA 1/4W
R2304	401 020 2805	CARBON 47K JA 1/4W
R2305	401 017 2702	CARBON 27K JA 1/4W
R2306	401 020 2805	CARBON 47K JA 1/4W
R2307	401 012 5609	CARBON 1K JA 1/4W
R2308	401 012 6903	CARBON 10K JA 1/4W
R2309	401 020 8302	CARBON 5.1K JA 1/4W
R2310	401 012 5609	CARBON 1K JA 1/4W
R2311	401 016 0402	CARBON 200K JA 1/4W
R2312	401 017 9701	CARBON 30K JA 1/4W
R2313	401 087 2909	MT-FILM 12K FD 1/6W
R2314	401 014 9001	CARBON 16K JA 1/4W
R2315	401 016 9603	CARBON 27 JA 1/4W
R2316	401 016 3700	CARBON 2.2K JA 1/4W
R2317	401 016 2505	CARBON 220 JA 1/4W
R2401	401 017 2702	CARBON 27K JA 1/4W
R2402	401 020 2805	CARBON 47K JA 1/4W
R2403	401 015 3701	CARBON 18K JA 1/4W
R2404	401 020 2805	CARBON 47K JA 1/4W
R2405	401 017 2702	CARBON 27K JA 1/4W
R2406	401 020 2805	CARBON 47K JA 1/4W
R2407	401 012 5609	CARBON 1K JA 1/4W
R2408	401 012 6903	CARBON 10K JA 1/4W
R2409	401 020 8302	CARBON 5.1K JA 1/4W
R2410	401 012 5609	CARBON 1K JA 1/4W
R2411	401 016 0402	CARBON 200K JA 1/4W
R2412	401 017 9701	CARBON 30K JA 1/4W
R2413	401 091 3305	MT-FILM 7.5K FD 1/6W
R2414	401 021 2903	CARBON 5.6K JA 1/4W
R2415	401 016 9603	CARBON 27 JA 1/4W
R2416	401 016 3700	CARBON 2.2K JA 1/4W
R2417	401 016 2505	CARBON 220 JA 1/4W
R2501	401 012 6903	CARBON 10K JA 1/4W
R2502	401 012 6903	CARBON 10K JA 1/4W
R2503	401 012 6903	CARBON 10K JA 1/4W
R2504	401 013 6308	CARBON 12K JA 1/4W
R2505	401 012 6903	CARBON 10K JA 1/4W
R2506	401 020 1907	CARBON 4.7K JA 1/4W
R2507	401 020 1907	CARBON 4.7K JA 1/4W
R2509	401 012 9201	CARBON 1M JA 1/4W
R2510	401 012 8006	CARBON 100K JA 1/4W
R2511	401 013 6308	CARBON 12K JA 1/4W
R2512	401 023 7401	CARBON 9.1K JA 1/4W
R2513	401 012 6903	CARBON 10K JA 1/4W
R2514	401 023 7401	CARBON 9.1K JA 1/4W
R2515	401 012 6903	CARBON 10K JA 1/4W
R2518	401 017 8506	CARBON 300 JA 1/4W
R2519	401 019 2908	CARBON 39K JA 1/4W
R2520	401 016 4707	CARBON 22K JA 1/4W
R2521	401 017 9701	CARBON 30K JA 1/4W
R2522	401 020 1907	CARBON 4.7K JA 1/4W
R2523	401 012 6903	CARBON 10K JA 1/4W
R2524	401 012 6903	CARBON 10K JA 1/4W
R2525	401 018 4804	CARBON 33K JA 1/4W
R2526	401 016 4707	CARBON 22K JA 1/4W
R2527	401 019 1802	CARBON 3.9K JA 1/4W
R2528	401 016 4707	CARBON 22K JA 1/4W
R2529	401 018 8307	CARBON 36K JA 1/4W
R2531	401 012 5609	CARBON 1K JA 1/4W
R2534	401 016 2505	CARBON 220 JA 1/4W
R2535	401 014 5102	CARBON 15K JA 1/4W
R2536	401 019 7705	CARBON 4.3K JA 1/4W
R2537	401 018 4804	CARBON 33K JA 1/4W
R2538	401 020 1907	CARBON 4.7K JA 1/4W
R2539	401 019 7200	CARBON 430 JA 1/4W
R2540	401 012 6903	CARBON 10K JA 1/4W
R2541	401 020 1907	CARBON 4.7K JA 1/4W
R2542	401 012 6903	CARBON 10K JA 1/4W
R2543	401 016 5704	CARBON 220K JA 1/4W
R2544	401 087 4804	MT-FILM 8.2K FD 1/6W
R2545	401 012 6903	CARBON 10K JA 1/4W
R2546	401 014 4006	CARBON 1.5K JA 1/4W
R2547	401 014 4006	CARBON 1.5K JA 1/4W
R2651	401 020 2805	CARBON 47K JA 1/4W
R2652	401 020 1907	CARBON 4.7K JA 1/4W
R2653	401 012 6903	CARBON 10K JA 1/4W
R2654	401 020 1907	CARBON 4.7K JA 1/4W
R2655	401 014 5102	CARBON 15K JA 1/4W
R2656	401 022 6702	CARBON 75 JA 1/4W
R2657	401 012 6903	CARBON 10K JA 1/4W
R2658	401 021 4006	CARBON 56K JA 1/4W
R2659	401 021 4006	CARBON 56K JA 1/4W
R2660	401 012 6903	CARBON 10K JA 1/4W
R2661	401 012 6903	CARBON 10K JA 1/4W
R2662	401 021 2903	CARBON 5.6K JA 1/4W
R2663	401 016 4707	CARBON 22K JA 1/4W
VR235	613 001 9417	SEMI VR 10KB
OR	613 079 2532	VR,SEMI 10KB
VR236	613 001 9417	SEMI VR 10KB
OR	613 079 2532	VR,SEMI 10KB
VR239	613 001 9400	SEMI VR 5KB
OR	613 112 4912	VR,SEMI 5KB
VR243	613 001 5648	SEMI VR 100KB
VR251	613 001 5853	SEMI VR 10KB
VR252	613 001 5853	SEMI VR 10KB

SERVO CIRCUIT(SV-A)

R3554	401 012 6903	CARBON 10K JA 1/4W
R3594	401 012 5609	CARBON 1K JA 1/4W
R3901	401 018 4804	CARBON 33K JA 1/4W
VR351	613 001 9110	SEMI VR 220KB
OR	613 097 7953	VR,SEMI 220KB
VR353	613 001 9134	SEMI VR 470KB
OR	613 001 9486	SEMI VR 500KB
OR	613 112 4936	VR,SEMI 500KB

POWER SUPPLY CIRCUIT(PH-A)

C5401	403 001 1609	CERAMIC 0.01U K 16V
C5402	403 135 4002	ELECT 47U M 6.3V
D5401	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D5402	407 099 5204	ZENER DIODE MTZJ5.1B-T-77
D5403	407 053 7701	ZENER DIODE MTZ6.8C-T-77
D5404	407 078 2705	DIODE 1SS244-T-77
D5405	407 099 9103	ZENER DIODE MTZJ27B-T-77 (VHR-7800G ONLY)
D5406	407 063 8507	ZENER DIODE MTZJ4.7C-T-77
D5407	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D5410	407 005 8701	DIODE ERA15-02-V5

LOCATION	PARTS NO.	DESCRIPTION
D5410	407 004 9709	DIODE DSK10C-BT
L5401	613 015 6600	COIL,INDUCTOR 8.2UHK
OR	613 014 8636	HF CHOKE 8.2UH K
Q5401	405 088 9103	TR 2SA1703-S-AN
Q5402	405 089 2400	TR 2SC4484-S-AN
Q5403	405 006 7006	TR 2SA984K-E-AA
OR	405 006 7204	TR 2SA984K-F-AA
Q5404	405 006 7006	TR 2SA984K-E-AA(VHR-7800G)
OR	405 006 7204	TR 2SA984K-F-AA(VHR-7800G)
Q5406	405 088 9103	TR 2SA1703-S-AN(VHR-7810G)
R5401	401 021 8905	CARBON 6.2K JA 1/4W
R5402	401 016 3700	CARBON 2.2K JA 1/4W
R5403	401 012 5609	CARBON 1K JA 1/4W
R5404 ⚠	402 041 6209	FUSIBLE RES 820 JA 1/4W
R5405	401 021 2903	CARBON 5.6K JA 1/4W
R5406	401 014 5102	CARBON 15K JA 1/4W
R5407	401 019 7705	CARBON 4.3K JA 1/4W (VHR-7800G)
R5408 ⚠	402 004 1906	FUSIBLE RES 47 JA 1/4W (VHR-7800G)
R5409	401 013 6308	CARBON 12K JA 1/4W
R5412	401 021 8905	CARBON 6.2K JA 1/4W (VHR-7810G)
R5413	401 016 3700	CARBON 2.2K JA 1/4W (VHR-7810G)
R5414	401 021 2903	CARBON 5.6K JA 1/4W
R5416	401 015 3701	CARBON 18K JA 1/4W (VHR-7800G)

TUNER CIRCUIT(TN-A)

LOCATION	PARTS NO.	DESCRIPTION
B6002	405 003 7603	TR 2SA1345-AC
OR	405 000 2205	TR DTA144ES-DCTP
OR	405 063 9104	TR DTA144EL-TL2
B6003	405 018 2501	TR 2SC3399-AC
OR	405 000 6104	TR DTC144ES-DCTP
C6006	403 125 5606	ELECT 100U M 16V
C6008	403 109 6308	ELECT 1U M 50V
C6009	403 135 7409	ELECT 22U M 50V
C6010	403 121 9509	CERAMIC 0.1U Z 50V
D6001	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D6003	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D6004	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D6006	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
IC601	409 026 8203	IC L5631
OR	409 057 5103	IC UPC574J
IC602	409 148 5005	IC M6M80021P
Q6002	405 004 4007	TR 2SA608-E-SPA-AC
OR	405 004 4601	TR 2SA608-F-SPA-AC
OR	405 006 1707	TR 2SA933S-TP-Q
OR	405 006 1806	TR 2SA933S-T93-R
OR	405 093 0508	TR KSA1175-Y
Q6003	405 019 2005	TR 2SC536-E-SPA-AC
OR	405 019 2807	TR 2SC536-F-SPA-AC
OR	405 093 0607	TR KSC2785-Y
R6001	401 018 2701	CARBON 330 JA 1/4W
R6002	401 019 0904	CARBON 390 JA 1/4W
R6006	401 019 3905	CARBON 390K JA 1/4W
R6007	401 020 3802	CARBON 470K JA 1/4W
R6008	401 012 5609	CARBON 1K JA 1/4W
R6010	401 012 6903	CARBON 10K JA 1/4W
R6014	401 015 9406	CARBON 2K JA 1/4W
R6015	401 012 6903	CARBON 10K JA 1/4W

RF CONVERTER CIRCUIT(CV-A)

LOCATION	PARTS NO.	DESCRIPTION
C6601	403 134 8100	ELECT 100U M 6.3V
C6602	403 134 8100	ELECT 100U M 6.3V
L6601	613 015 6631	COIL,INDUCTOR 15UHK
OR	613 014 8667	HF CHOKE 15UH K
L6602	613 015 6631	COIL,INDUCTOR 15UHK
OR	613 014 8667	HF CHOKE 15UH K
R6603	401 016 3700	CARBON 2.2K JA 1/4W
R6604	401 019 1802	CARBON 3.9K JA 1/4W

COMPL,VD-1

COMPL.NO. 613 108 4186

LOCATION	PARTS NO.	DESCRIPTION
B1701	405 018 2402	TR 2SC3398-TB
OR	405 000 2908	TR DTC114EK-T96
C1701	403 069 5601	CERAMIC 0.01U K 50V
C1702	403 009 5807	CERAMIC 100P J 50V
C1703	403 189 2405	ELECT 10U M 16V
C1704	403 068 0409	CERAMIC 0.1U Z 25V
C1705	403 189 2405	ELECT 10U M 16V
C1706	403 069 5601	CERAMIC 0.01U K 50V
D1701	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
IC171	409 003 4907	IC BA7025L
J1701	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
Q1701	405 014 4400	TR 2SC2412K-T96-Q
OR	405 014 4509	TR 2SC2412K-T96-R
OR	405 014 4608	TR 2SC2412K-T96-S
OR	405 015 8407	TR 2SC2812-L5-TB
OR	405 015 8704	TR 2SC2812-L6-TB
R1701	401 038 0800	MT-GLAZE 22K JA 1/10W
R1702	401 037 5608	MT-GLAZE 10K JA 1/10W
R1703	401 038 7700	MT-GLAZE 5.6K JA 1/10W
R1704	401 037 5400	MT-GLAZE 1K JA 1/10W
R1705	401 038 0800	MT-GLAZE 22K JA 1/10W
R1706	401 037 5400	MT-GLAZE 1K JA 1/10W
R1707	401 038 0701	MT-GLAZE 2.2K JA 1/10W
R1708	401 037 8104	MT-GLAZE 150K JA 1/10W
R1709	401 038 5805	MT-GLAZE 430 JA 1/10W
R1710	401 038 0800	MT-GLAZE 22K JA 1/10W
R1711	401 037 5608	MT-GLAZE 10K JA 1/10W
XF171	613 084 1681	FILTER 4.16MHZ B.F
XF172	613 015 8604	CHOKE COIL

COMPL,VP-2

COMPL.NO. 613 114 2565

VIDEO PRE-AMP. CIRCUIT(VP-B)

LOCATION	PARTS NO.	DESCRIPTION
B1901	405 063 9708	TR DTC144EL-TL2
C1901	403 003 1805	CERAMIC 2200P M 25V

LOCATION	PARTS NO.	DESCRIPTION
C1902	403 003 7104	CERAMIC 0.033U M 25V
C1903	403 003 7104	CERAMIC 0.033U M 25V
C1904	403 003 1805	CERAMIC 2200P M 25V
C1905	403 003 1805	CERAMIC 2200P M 25V
C1906	403 003 7104	CERAMIC 0.033U M 25V
C1908	403 003 7104	CERAMIC 0.033U M 25V
C1909	403 003 1805	CERAMIC 2200P M 25V
C1911	403 191 8709	ELECT 1U M 50V
C1912	403 003 7104	CERAMIC 0.033U M 25V
C1913	403 003 7104	CERAMIC 0.033U M 25V
C1914	403 163 7907	ELECT 47U M 6.3V
C1915	403 001 1906	CERAMIC 0.01U M 16V
C1916	403 069 0309	CERAMIC 1000P J 50V
C1917	403 163 7907	ELECT 47U M 6.3V
C1918	403 001 1906	CERAMIC 0.01U M 16V
C1919	403 001 1906	CERAMIC 0.01U M 16V
C1920	403 001 1906	CERAMIC 0.01U M 16V
C1921	403 001 1906	CERAMIC 0.01U M 16V
C1922	403 001 1906	CERAMIC 0.01U M 16V
C1923	403 072 7500	CERAMIC 330P J 50V
C1924	403 073 2702	CERAMIC 390P J 50V
C1925	403 003 7104	CERAMIC 0.033U M 25V
C1926	403 193 7809	ELECT 100U M 16V
C1927	403 003 3700	CERAMIC 0.022U Z 25V
C1962	403 028 3402	CERAMIC 56P J 50V
C1963	403 026 2209	CERAMIC 47P J 50V
C1964	403 075 3103	CERAMIC 82P J 50V
IC191	409 161 9806	IC LA7321
L1901	613 015 6730	COIL,INDUCTOR 100UHK
L1902	613 015 6730	COIL,INDUCTOR 100UHK
L1903	613 014 0838	COIL,INDUCTOR 6.8UHK
L1904	613 014 0890	COIL,INDUCTOR 22UHK
L1905	613 014 0968	COIL,INDUCTOR 82UHK
L1906	613 015 6716	COIL,INDUCTOR 68UHK
Q1901	405 057 6201	TR 2SC4038-Q-TL2
OR	405 057 6409	TR 2SC4038-R-TL2
Q1902	405 082 7204	TR 2SC4039 TL2 Q
R1901	401 021 7007	CARBON 6.8 JA 1/4W
R1902	401 016 1409	CARBON 22 JA 1/4W
R1903	401 016 2505	CARBON 220 JA 1/4W
R1904	401 015 2605	CARBON 1.8K JA 1/4W
R1905	401 012 4404	CARBON 100 JA 1/4W
R1909	401 020 0702	CARBON 470 JA 1/4W
R1910	401 021 1807	CARBON 560 JA 1/4W
R1911	401 020 0702	CARBON 470 JA 1/4W
R1941	401 014 4006	CARBON 1.5K JA 1/4W
R1942	401 014 4006	CARBON 1.5K JA 1/4W
R1943	401 012 5609	CARBON 1K JA 1/4W
R1960	401 016 2505	CARBON 220 JA 1/4W
R1962	401 015 8805	CARBON 200 JA 1/4W
R1981	401 021 7007	CARBON 6.8 JA 1/4W
R1982	401 012 5609	CARBON 1K JA 1/4W
VR181	613 002 0345	SEMI VR 1KB
OR	613 117 1664	VR,SEMI 1KB
VR182	613 002 0345	SEMI VR 1KB
OR	613 117 1664	VR,SEMI 1KB

AUDIO PRE-AMP. CIRCUIT(AP-B)

LOCATION	PARTS NO.	DESCRIPTION
C2801	403 001 1609	CERAMIC 0.01U K 16V
C2802	403 163 8409	ELECT 47U M 16V
C2803	403 001 1609	CERAMIC 0.01U K 16V
C2804	403 001 1609	CERAMIC 0.01U K 16V
C2805	403 001 1609	CERAMIC 0.01U K 16V
C2806	403 001 1609	CERAMIC 0.01U K 16V
C2807	403 001 1609	CERAMIC 0.01U K 16V
C2808	403 163 7907	ELECT 47U M 6.3V
C2809	403 001 1609	CERAMIC 0.01U K 16V
C2810	403 001 1609	CERAMIC 0.01U K 16V
C2811	403 193 8202	ELECT 0.1U M 50V
C2812	403 001 1609	CERAMIC 0.01U K 16V
C2814	403 001 1609	CERAMIC 0.01U K 16V
C2816	403 193 8202	ELECT 0.1U M 50V
C2817	403 121 9509	CERAMIC 0.1U Z 50V
IC281	409 208 5808	IC UPC2350GS
L2801	613 015 6730	COIL,INDUCTOR 100UHK
L2802	613 015 6730	COIL,INDUCTOR 100UHK
R2801	401 012 5609	CARBON 1K JA 1/4W
R2803	401 016 4707	CARBON 22K JA 1/4W
R2804	401 016 4707	CARBON 22K JA 1/4W
R2807	401 012 3308	CARBON 10 JA 1/4W
R2808	401 012 3308	CARBON 10 JA 1/4W
R2811	401 022 6702	CARBON 75 JA 1/4W

COMPL,AD-1

COMPL.NO. 613 112 5087

LOCATION	PARTS NO.	DESCRIPTION
B2601	405 003 7900	TR 2SA1348-AC
B2602	405 018 2501	TR 2SC3399-AC
OR	405 000 6104	TR DTC144ES-DCTP
B2603	405 018 2501	TR 2SC3399-AC
OR	405 000 6104	TR DTC144ES-DCTP
B2604	405 018 2501	TR 2SC3399-AC
OR	405 000 6104	TR DTC144ES-DCTP
C2001	403 139 2707	ELECT 1U M 50V
C2002	403 075 4506	CERAMIC 820P K 50V
C2004	403 139 0901	ELECT 33U M 6.3V
C2005	403 003 0600	CERAMIC 0.018U K 25V
C2006	403 139 2608	ELECT 0.47U M 50V
C2007	403 072 4707	CERAMIC 270P K 50V
C2008	403 001 6505	CERAMIC 3300P K 16V
C2009	403 121 3002	ELECT 4.7U M 25V
C2010	403 107 9905	ELECT 10U M 16V
C2013	403 003 2406	CERAMIC 0.022U J 25V
C2016	403 109 6308	ELECT 1U M 50V
C2017	403 134 5901	ELECT 33U M 16V
C2018	403 121 3002	ELECT 4.7U M 25V
C2019	403 047 1007	ELECT 4.7U M 25V
C2020	403 071 6207	CERAMIC 220P K 50V
C2021	403 082 4209	POLYPRO 6800P J 100V
C2022	403 001 7403	CERAMIC 4700P K 16V
C2024	403 003 2802	CERAMIC 0.022U K 25V
C2025	403 003 3700	CERAMIC 0.022U Z 25V
C2051	403 069 1207	CERAMIC 1000P K 50V
C2071	403 075 4001	CERAMIC 820P J 50V
C2072	403 139 2707	ELECT 1U M 50V
C2073	403 003 8606	CERAMIC 0.039U J 25V
C2075	403 121 3002	ELECT 4.7U M 25V
C2603	403 109 6308	ELECT 1U M 50V
C2604	403 107 9905	ELECT 10U M 16V
C2605	403 121 2401	ELECT 22U M 16V
C2606	403 121 3002	ELECT 4.7U M 25V
C2607	403 163 8409	ELECT 47U M 16V
C2608	403 139 1403	ELECT 47U M 10V
C2609	403 139 1502	ELECT 10U M 16V
C2610	403 070 4105	CERAMIC 120P K 50V
C2611	403 139 1403	ELECT 47U M 10V
C2612	403 191 8709	ELECT 1U M 50V
C2614	403 047 1007	ELECT 4.7U M 25V

LOCATION	PARTS NO.	DESCRIPTION
C2615	403 082 1604	POLYPRO 0.047U J 100V
C2616	403 001 1609	CERAMIC 0.01U K 16V
C2617	403 002 1905	CERAMIC 0.01U K 25V
C2618	403 135 4002	ELECT 47U M 6.3V
D2001	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
IC201	409 133 1401	IC LA7294
IC262	409 110 4302	IC M51131L
IC263	409 117 9201	IC BA15218N
L2001	613 015 5474	HF CHOKE 27MH
L2002	613 014 3037	COIL.INDUCTOR 10MHJ
L2003	613 014 2870	COIL.INDUCTOR 560UHK
Q2001	405 024 9709	TR 2SD734-E-AA
OR	405 024 9907	TR 2SD734-F-AA
Q2603	405 019 2708	TR 2SC536-F-NP-AA
R2001	401 012 4404	CARBON 100 JA 1/4W
R2002	401 022 3008	CARBON 6.8K JA 1/4W
R2003	401 013 4106	CARBON 120 JA 1/4W
R2004	401 019 3905	CARBON 390K JA 1/4W
R2005	401 021 8905	CARBON 6.2K JA 1/4W
R2006	401 017 1705	CARBON 2.7K JA 1/4W
R2007	401 021 8905	CARBON 6.2K JA 1/4W
R2008	401 015 2605	CARBON 1.8K JA 1/4W
R2009	401 017 4508	CARBON 2.7M JA 1/4W
R2010	401 012 6903	CARBON 10K JA 1/4W
R2011	401 023 7401	CARBON 9.1K JA 1/4W
R2012	401 019 7705	CARBON 4.3K JA 1/4W
R2013	401 012 5609	CARBON 1K JA 1/4W
R2014	401 015 2605	CARBON 1.8K JA 1/4W
R2016	401 012 8006	CARBON 100K JA 1/4W
R2018	401 015 3701	CARBON 18K JA 1/4W
R2019	401 015 3701	CARBON 18K JA 1/4W
R2021	401 012 3308	CARBON 10 JA 1/4W
R2022	401 019 9501	CARBON 47 JA 1/4W
R2023	401 016 4707	CARBON 22K JA 1/4W
R2024	401 015 6405	CARBON 2.2 JA 1/4W
R2051	401 012 5609	CARBON 1K JA 1/4W
R2071	401 013 4106	CARBON 120 JA 1/4W
R2072	401 012 6903	CARBON 10K JA 1/4W
R2091	401 021 8905	CARBON 6.2K JA 1/4W
R2092	401 020 8302	CARBON 5.1K JA 1/4W
R2605	401 018 8307	CARBON 36K JA 1/4W
R2606	401 016 0006	CARBON 20K JA 1/4W
R2607	401 012 6903	CARBON 10K JA 1/4W
R2608	401 013 6308	CARBON 12K JA 1/4W
R2609	401 013 6308	CARBON 12K JA 1/4W
R2611	401 012 6903	CARBON 10K JA 1/4W
R2612	401 012 6903	CARBON 10K JA 1/4W
R2613	401 012 8006	CARBON 100K JA 1/4W
R2614	401 014 5102	CARBON 15K JA 1/4W
R2615	401 019 9501	CARBON 47 JA 1/4W
R2616	401 014 5102	CARBON 15K JA 1/4W
R2617	401 012 4404	CARBON 100 JA 1/4W
R2620	401 012 3308	CARBON 10 JA 1/4W
R2621	401 014 5102	CARBON 15K JA 1/4W
R2622	401 019 9501	CARBON 47 JA 1/4W
R2623	401 012 3308	CARBON 10 JA 1/4W
R2624	401 018 4804	CARBON 33K JA 1/4W
T2001	613 109 3492	TRANS.OSC
T2002	613 109 3485	TRANS.OSC
VR201	613 002 0468	SEMI VR 100KB

LOCATION	PARTS NO.	DESCRIPTION

COMPL.CP-2
COMPL.NO. 613 113 3105

AUDIO CIRCUIT(AD-B)

LOCATION	PARTS NO.	DESCRIPTION
B2701	405 000 3103	TR DTC114ES-DCTP
B2701	405 018 2808	TR 2SC3402-AC
C2701	403 041 8804	ELECT 10U M 16V
D2701	407 099 5303	ZENER DIODE MTZJ5.6B-T-77
D2702	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D2703	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
Q2701	405 024 0409	TR 2SD545-F-NP-AA
R2701	401 015 2605	CARBON 1.8K JA 1/4W
R2702	402 004 2309	FUSIBLE RES 5.6 JA 1/4W
R2703	401 021 2903	CARBON 5.6K JA 1/4W

SYSTEM CONTROL CIRCUIT(SY-B)

LOCATION	PARTS NO.	DESCRIPTION
B3001	405 018 2808	TR 2SC3402-AC
B3102	405 018 2808	TR 2SC3402-AC
OR	405 000 3103	TR DTC114ES-DCTP
B3104	405 018 2808	TR 2SC3402-AC
OR	405 000 3103	TR DTC114ES-DCTP
C3001	403 155 2804	DL-ELECT 0.047F Z 5.5V
C3002	403 135 3500	ELECT 220U M 6.3V
C3003	403 121 9509	CERAMIC 0.1U Z 50V
C3102	403 139 2905	ELECT 2.2U M 50V
C3103	403 121 9509	CERAMIC 0.1U Z 50V
C3104	403 002 2506	CERAMIC 0.01U M 25V
C3105	403 139 0901	ELECT 33U M 6.3V
C3106	403 121 9509	CERAMIC 0.1U Z 50V
C3108	403 135 4002	ELECT 47U M 6.3V
C3109	403 001 1609	CERAMIC 0.01U K 16V
C3110	403 070 7809	CERAMIC 150P K 50V
C3111	403 001 1609	CERAMIC 0.01U K 16V
C3112	403 001 1609	CERAMIC 0.01U K 16V
C3113	403 001 1609	CERAMIC 0.01U K 16V
C3114	403 001 1609	CERAMIC 0.01U K 16V
C3115	403 204 5107	NP-ELECT 10U M 25V
C3116	403 069 1207	CERAMIC 1000P K 50V
C3117	403 001 1609	CERAMIC 0.01U K 16V
C3118	403 001 1609	CERAMIC 0.01U K 16V
D3001	407 120 5807	DIODE AK04-V2
D3005	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D3101	407 063 9504	ZENER DIODE MTZJ8.2B-T-77
D3102	407 099 5303	ZENER DIODE MTZJ5.6B-T-77
D3103	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D3104	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
IC301	410 095 5703	IC UPD75516GF-117-3B9
IC311	409 018 4206	IC LA6393S
IC312	409 114 4803	IC LB1641
IC313	409 032 3704	IC MN1280-R
OR	409 032 3803	IC MN1280-S
L3101	613 014 1118	COIL.INDUCTOR 18UHJ
Q3101	405 016 1100	TR 2SC2839-F-SPA-AC

LOCATION	PARTS NO.	DESCRIPTION
Q3102	405 019 2005	TR 2SC536-E-SPA-AC
OR	405 011 8401	TR 2SC1740S-DCTP-Q
OR	405 093 0607	TR KSC2785-Y
Q3103	405 019 2005	TR 2SC536-E-SPA-AC
OR	405 011 8401	TR 2SC1740S-DCTP-Q
OR	405 093 0607	TR KSC2785-Y
R3001	402 036 4401	FUSIBLE RES 3.3 JA 1/2W
OR	402 036 3701	FUSIBLE RES 3.3 JA 1/2W
R3002	401 020 1907	CARBON 4.7K JA 1/4W
R3003	401 020 1907	CARBON 4.7K JA 1/4W
R3005	401 014 4006	CARBON 1.5K JA 1/4W
R3006	401 014 4006	CARBON 1.5K JA 1/4W
R3007	401 019 1802	CARBON 3.9K JA 1/4W
R3008	401 020 1907	CARBON 4.7K JA 1/4W
R3009	401 016 5704	CARBON 220K JA 1/4W
R3010	401 016 5704	CARBON 220K JA 1/4W
R3011	401 012 5609	CARBON 1K JA 1/4W
R3012	401 012 5609	CARBON 1K JA 1/4W
R3013	401 016 5704	CARBON 220K JA 1/4W
R3014	401 012 5609	CARBON 1K JA 1/4W
R3015	401 016 5704	CARBON 220K JA 1/4W
R3017	401 020 1907	CARBON 4.7K JA 1/4W
R3018	401 016 5704	CARBON 220K JA 1/4W
R3019	401 012 6903	CARBON 10K JA 1/4W
R3020	401 023 4509	CARBON 820K JA 1/4W
R3022	401 016 5704	CARBON 220K JA 1/4W
R3024	401 023 4509	CARBON 820K JA 1/4W
R3025	401 020 1907	CARBON 4.7K JA 1/4W
R3026	401 014 4006	CARBON 1.5K JA 1/4W
R3027	401 014 5102	CARBON 15K JA 1/4W
R3028	401 012 5609	CARBON 1K JA 1/4W
R3101	401 012 6903	CARBON 10K JA 1/4W
R3102	401 014 6000	CARBON 150K JA 1/4W
R3103	401 016 0006	CARBON 20K JA 1/4W
R3104	401 016 4707	CARBON 22K JA 1/4W
R3105	401 021 4006	CARBON 56K JA 1/4W
R3106	401 023 4509	CARBON 820K JA 1/4W
R3107	401 017 3709	CARBON 270K JA 1/4W
R3108	401 017 2702	CARBON 27K JA 1/4W
R3109	401 016 3700	CARBON 2.2K JA 1/4W
R3110	401 018 4804	CARBON 33K JA 1/4W
R3111	401 016 4707	CARBON 22K JA 1/4W
R3112	401 012 6903	CARBON 10K JA 1/4W
R3113	401 016 4707	CARBON 22K JA 1/4W
R3114	401 012 6903	CARBON 10K JA 1/4W
R3115	401 012 6903	CARBON 10K JA 1/4W
R3116	401 012 6903	CARBON 10K JA 1/4W
R3117	401 022 7105	CARBON 750 JA 1/4W
R3118	401 022 7105	CARBON 750 JA 1/4W
R3122	401 012 6903	CARBON 10K JA 1/4W
R3123	401 023 2703	CARBON 8.2K JA 1/4W
R3124	401 016 3700	CARBON 2.2K JA 1/4W
R3125	401 012 5609	CARBON 1K JA 1/4W
R3126	401 018 2701	CARBON 330 JA 1/4W
R3127	401 016 2505	CARBON 220 JA 1/4W
R3128	401 016 2505	CARBON 220 JA 1/4W
R3129	401 016 5704	CARBON 220K JA 1/4W
R3130	401 017 2702	CARBON 27K JA 1/4W
R3131	401 018 4804	CARBON 33K JA 1/4W
R3132	401 018 4804	CARBON 33K JA 1/4W
R3133	401 020 2805	CARBON 47K JA 1/4W
R3134	401 018 4804	CARBON 33K JA 1/4W
R3135	401 014 7106	CARBON 1.5M JA 1/4W
R3136	401 016 4707	CARBON 22K JA 1/4W
R3137	401 020 1907	CARBON 4.7K JA 1/4W
R3138	401 012 5609	CARBON 1K JA 1/4W
R3139	401 016 0402	CARBON 200K JA 1/4W
R3140	401 012 5609	CARBON 1K JA 1/4W

LOCATION	PARTS NO.	DESCRIPTION
R3141	401 016 0402	CARBON 200K JA 1/4W
R3142	401 012 5609	CARBON 1K JA 1/4W
R3143	401 020 1907	CARBON 4.7K JA 1/4W
R3144	401 020 1907	CARBON 4.7K JA 1/4W
R3145	401 020 1907	CARBON 4.7K JA 1/4W
R3146	401 020 1907	CARBON 4.7K JA 1/4W
R3153	401 012 5609	CARBON 1K JA 1/4W
R3154	401 012 5609	CARBON 1K JA 1/4W
R3155	401 012 5609	CARBON 1K JA 1/4W
R3156	401 012 5609	CARBON 1K JA 1/4W
R3202	401 020 1907	CARBON 4.7K JA 1/4W
R3204	401 020 1907	CARBON 4.7K JA 1/4W
R3206	401 016 0006	CARBON 20K JA 1/4W
R3207	401 017 1705	CARBON 2.7K JA 1/4W
R3209	401 020 1907	CARBON 4.7K JA 1/4W
XF301	613 097 9698	RESONATOR,CERAMIC 4.0MHZ
OR	613 108 2496	RESONATOR,CERAMIC 4.0MHZ

SERVO CIRCUIT(SV-B)

LOCATION	PARTS NO.	DESCRIPTION
B3503	405 018 2501	TR 2SC3399-AC
OR	405 000 6104	TR DTC144ES-DCTP
B3506	405 018 2501	TR 2SC3399-AC
OR	405 000 6104	TR DTC144ES-DCTP
B3507	405 018 2501	TR 2SC3399-AC
OR	405 000 6104	TR DTC144ES-DCTP
B3512	405 018 2501	TR 2SC3399-AC
OR	405 000 6104	TR DTC144ES-DCTP
C3501	403 057 6801	POLYESTER 0.012U J 50V
C3502	403 139 1007	ELECT 47U M 6.3V
C3503	403 121 9509	CERAMIC 0.1U Z 50V
C3504	403 071 6207	CERAMIC 220P K 50V
C3505	403 062 9101	POLYESTER 6800P J 50V
C3506	403 059 6502	POLYESTER 0.022U K 50V
C3507	403 002 8508	CERAMIC 0.015U K 25V
C3508	403 001 8806	CERAMIC 6800P K 16V
C3509	403 002 8508	CERAMIC 0.015U K 25V
C3510	403 145 8601	ELECT 22U M 16V
OR	403 042 8803	ELECT 22U M 16V
C3511	403 145 8601	ELECT 22U M 16V
OR	403 042 8803	ELECT 22U M 16V
C3512	403 063 0008	POLYESTER 6800P K 50V
C3513	403 168 6103	MT-POLYEST 0.1U J 50V
C3514	403 001 5003	CERAMIC 2200P K 16V
C3515	403 001 3801	CERAMIC 1500P K 16V
C3516	403 001 8806	CERAMIC 6800P K 16V
C3517	403 145 8601	ELECT 22U M 16V
OR	403 042 8803	ELECT 22U M 16V
C3518	403 145 8601	ELECT 22U M 16V
OR	403 042 8803	ELECT 22U M 16V
C3519	403 175 0903	MT-POLYEST 0.12U J 50V
C3525	403 069 1207	CERAMIC 1000P K 50V
C3526	403 139 2400	ELECT 0.22U M 50V
C3527	403 001 1609	CERAMIC 0.01U K 16V
C3528	403 139 2707	ELECT 1U M 50V
C3529	403 004 4607	CERAMIC 0.068U K 25V
C3530	403 139 1502	ELECT 10U M 16V
C3531	403 139 3001	ELECT 3.3U M 50V
C3532	403 074 9205	CERAMIC 680P K 50V
C3533	403 069 1207	CERAMIC 1000P K 50V
C3534	403 159 0806	NP-ELECT 33U M 6.3V
C3535	403 069 1207	CERAMIC 1000P K 50V
C3536	403 060 7505	POLYESTER 0.033U J 50V
C3537	403 139 1007	ELECT 47U M 6.3V
C3540	403 063 7700	POLYESTER 0.082U K 50V
C3541	403 070 4105	CERAMIC 120P K 50V
C3551	403 168 6103	MT-POLYEST 0.1U J 50V

LOCATION	PARTS NO.	DESCRIPTION
C3552	403 168 6103	MT-POLYEST 0.1U J 50V
C3553	403 168 6103	MT-POLYEST 0.1U J 50V
C3554	403 168 6103	MT-POLYEST 0.1U J 50V
C3555	403 001 1609	CERAMIC 0.01U K 16V
C3556	403 086 2904	NP-ELECT 1U M 50V
C3557	403 001 1609	CERAMIC 0.01U K 16V
C3558	403 086 2904	NP-ELECT 1U M 50V
D3501	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D3502	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D3503	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D3504	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D3506	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D3509	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D3512	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D3513	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D3517	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D3534	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D3535	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D3536	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D3539	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D3540	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D3541	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
IC351	409 180 3403	IC LC7418-8084
IC352	409 159 8606	IC LA7122S
OR	409 178 3200	IC LA7124
Q3501	405 011 8401	TR 2SC1740S-DCTP-Q
OR	405 019 2005	TR 2SC536-E-SPA-AC
OR	405 093 0607	TR KSC2785-Y
Q3503	405 019 2005	TR 2SC536-E-SPA-AC
OR	405 011 8401	TR 2SC1740S-DCTP-Q
OR	405 093 0607	TR KSC2785-Y
Q3505	405 019 2005	TR 2SC536-E-SPA-AC
OR	405 011 8401	TR 2SC1740S-DCTP-Q
OR	405 093 0607	TR KSC2785-Y
R3503	401 016 4707	CARBON 22K JA 1/4W
R3504	401 016 4707	CARBON 22K JA 1/4W
R3505	401 015 4609	CARBON 180K JA 1/4W
R3509	401 015 3701	CARBON 18K JA 1/4W
R3511	401 012 6903	CARBON 10K JA 1/4W
R3512	401 012 8006	CARBON 100K JA 1/4W
R3513	401 012 8006	CARBON 100K JA 1/4W
R3514	401 018 5702	CARBON 330K JA 1/4W
R3515	401 014 5102	CARBON 15K JA 1/4W
R3516	401 014 6000	CARBON 150K JA 1/4W
R3517	401 014 6000	CARBON 150K JA 1/4W
R3518	401 012 6903	CARBON 10K JA 1/4W
R3519	401 020 2805	CARBON 47K JA 1/4W
R3520	401 020 2805	CARBON 47K JA 1/4W
R3521	401 018 5702	CARBON 330K JA 1/4W
R3522	401 014 6000	CARBON 150K JA 1/4W

LOCATION	PARTS NO.	DESCRIPTION
R3523	401 017 2702	CARBON 27K JA 1/4W
R3527	401 014 6000	CARBON 150K JA 1/4W
R3528	401 012 8006	CARBON 100K JA 1/4W
R3529	401 012 6903	CARBON 10K JA 1/4W
R3534	401 016 3700	CARBON 2.2K JA 1/4W
R3535	401 016 3700	CARBON 2.2K JA 1/4W
R3539	401 021 9902	CARBON 620K JA 1/4W
R3540	401 014 6000	CARBON 150K JA 1/4W
R3541	401 018 7508	CARBON 360 JA 1/4W
R3542	401 020 7800	CARBON 510 JA 1/4W
R3543	401 020 7800	CARBON 510 JA 1/4W
R3548	401 012 6903	CARBON 10K JA 1/4W
R3549	401 012 8006	CARBON 100K JA 1/4W
R3550	401 012 6903	CARBON 10K JA 1/4W
R3551	401 014 6000	CARBON 150K JA 1/4W
R3552	401 018 5702	CARBON 330K JA 1/4W
R3553	401 014 0206	CARBON 130K JA 1/4W
R3555	401 018 5702	CARBON 330K JA 1/4W
R3559	401 012 6903	CARBON 10K JA 1/4W
R3560	401 012 5609	CARBON 1K JA 1/4W
R3561	401 015 2605	CARBON 1.8K JA 1/4W
R3563	401 012 5609	CARBON 1K JA 1/4W
R3564	401 012 5609	CARBON 1K JA 1/4W
R3565	401 022 8508	CARBON 750K JA 1/4W
R3566	401 012 8006	CARBON 100K JA 1/4W
R3571	401 012 8006	CARBON 100K JA 1/4W
R3572	401 020 2805	CARBON 47K JA 1/4W
R3584	401 023 7401	CARBON 9.1K JA 1/4W
R3585	401 017 3709	CARBON 270K JA 1/4W
R3590	401 013 6308	CARBON 12K JA 1/4W
R3593	401 018 5702	CARBON 330K JA 1/4W

COMPL,PW-1

LOCATION	PARTS NO.	DESCRIPTION
COMPL.NO.	613 112 6657	(VHR-7800G)
	613 118 1618	HOLDER,FUSE
	613 118 1311	COVER,FUSE
C5101	403 121 9400	MT-POLYEST 0.82U J 63V
C5102	403 161 0009	ELECT 2200U M 50V
OR	403 154 8203	ELECT 2200U M 50V
C5105	403 157 0006	ELECT 47U M 63V
C5106	403 156 9703	ELECT 22U M 63V
C5107	403 135 4507	ELECT 1000U M 10V
C5108	403 160 7207	ELECT 470U M 16V
C5109	404 049 6908	ELECT 1000U M 10V
C5110	403 044 1703	ELECT 470U M 16V
C5111	403 135 4507	ELECT 1000U M 10V
C5112	403 129 5800	ELECT 22U M 35V
C5113	403 002 4708	CERAMIC 0.1U Z 25V
C5115	403 125 5606	ELECT 100U M 16V
D5101	407 138 0306	DIODE DBF40E-C2
OR	407 097 9303	DIODE DBF40C-C2
D5102	407 078 2705	DIODE 1SS244-T-77
D5103	407 078 2705	DIODE 1SS244-T-77
D5104	407 004 9709	DIODE DSK10C-BT
OR	407 005 8701	DIODE ERA15-02-V5
D5105	407 004 9709	DIODE DSK10C-BT
OR	407 005 8701	DIODE ERA15-02-V5
D5106	407 004 9709	DIODE DSK10C-BT
OR	407 005 8701	DIODE ERA15-02-V5
D5107	407 004 9709	DIODE DSK10C-BT
OR	407 005 8701	DIODE ERA15-02-V5
D5110	407 050 9104	ZENER DIODE GZB16C
D5111	407 050 8107	ZENER DIODE GZB10C
F5001 ⚠	423 003 3708	FUSE 250V 0.4A
F5101 ⚠	423 004 6708	FUSE 250V0.315A

LOCATION	PARTS NO.	DESCRIPTION			
IC511	409 214 8909	IC STK7576			
IC512	409 214 8800	IC SI-3120C			
L5001	613 080 0664	LF CHOKE			
L5101	613 013 0730	LF CHOKE			
L5102	613 013 0730	LF CHOKE			
L5103	613 110 4198	COIL,INDUCTOR 10UH K			
L5110	613 017 0354	CORE			
R5102	401 008 7402	CARBON	2.2K	JA	1/2W
R5103	401 057 3004	OXIDE-MT	0.22	JA	1W
R5104	401 057 4001	OXIDE-MT	0.33	JA	1W
COMPL,PW-1					
COMPL.NO.	613 115 2861	(VHR-7810G)			
	613 052 5543	FUSE HOLDER			
C5001 ⚠	404 044 7900	MT-POLYEST	0.22U	M	250V
C5002 ⚠	404 044 7108	MT-POLYEST	0.047U	M	250V
C5003	404 038 5103	ELECT	82U	M	400V
OR	404 044 7306	ELECT	68U	M	400V
OR	404 044 7207	ELECT	68U	M	400V
C5004	403 183 3309	MT-POLYEST	0.047U	M	630V
C5005	404 033 1704	CERAMIC	680P	K	2K
C5006	403 093 9606	OS-SOLID	1U	M	16V
OR	403 094 7205	OS-SOLID	1U	M	25V
C5007	403 159 7508	ELECT	22U	M	10V
C5008	403 183 3507	MT-POLYEST	0.015U	J	50V
C5009	403 183 3606	MT-POLYEST	0.027U	J	50V
C5021 ⚠	404 034 7200	CERAMIC	1000P	M	400V
OR ⚠	404 034 6302	CERAMIC	1000P	K	400V
C5022 ⚠	404 034 6302	CERAMIC	1000P	K	400V
OR ⚠	404 034 7200	CERAMIC	1000P	M	400V
C5024 ⚠	404 032 6304	CERAMIC	2200P	M	400V
OR ⚠	404 034 7507	CERAMIC	2200P	M	400V
C5025 ⚠	404 032 6304	CERAMIC	2200P	M	400V
OR ⚠	404 034 7507	CERAMIC	2200P	M	400V
C5101	403 150 0003	ELECT	470U	M	25V
C5102	403 094 3405	OS-SOLID	100U	M	20V
C5103	403 121 8700	ELECT	470U	M	25V
OR	403 119 8002	ELECT	470U	M	25V
C5104	403 093 6407	OS-SOLID	100U	M	10V
C5105	403 147 9903	ELECT	470U	M	10V
OR	403 160 4909	ELECT	470U	M	10V
C5106	403 121 6607	ELECT	47U	M	50V
OR	403 154 8302	ELECT	47U	M	50V
C5107	403 121 6607	ELECT	47U	M	50V
OR	403 154 8302	ELECT	47U	M	50V
C5108	403 160 2400	ELECT	330U	M	6.3V
C5109	403 144 6806	ELECT	47U	M	35V
OR	403 155 5706	ELECT	47U	M	35V
C5110	403 156 1004	ELECT	47U	M	16V
C5111	403 156 1004	ELECT	47U	M	16V
D5001	407 124 0501	DIODE LB156-LF-A			
D5002	407 091 6704	DIODE AP01C-V0			
D5003	407 078 2705	DIODE 1SS244-T-77			
D5004	407 078 2705	DIODE 1SS244-T-77			
D5005	407 091 6704	DIODE AP01C-V0			
D5101	407 129 2005	DIODE RL2Z-LF-B1			
D5102	407 097 0508	DIODE FML-G12S			
D5103	407 097 0508	DIODE FML-G12S			
D5104	407 100 6909	DIODE AG01-V2			
D5105	407 078 2705	DIODE 1SS244-T-77			
D5110	407 100 6909	DIODE AG01-V2			
F5001 ⚠	423 006 1305	FUSE	250V	2A	

LOCATION	PARTS NO.	DESCRIPTION			
IC501	409 149 6803	IC STK73605			
L5001 ⚠	613 088 9966	LF CHOKE			
L5002 ⚠	613 080 0664	LF CHOKE			
L5101	613 015 8178	CHOKE COIL			
L5102	613 017 0354	CORE			
L5103	613 017 0354	CORE			
PR511	613 000 2327	CIRCUIT PROTECTOR			
R5001 ⚠	401 001 8000	SOLID	2.7M	MA	1/2W
OR ⚠	401 001 7904	SOLID	2.7M	KA	1/2W
R5003	401 150 7008	OXIDE-MT	390K	JA	1W
R5004	401 012 3506	CARBON	10	JB	1/4W
R5005	401 069 4402	OXIDE-MT	68K	JA	2W
R5006	401 067 7207	OXIDE-MT	33K	JA	2W
R5007	401 060 2704	OXIDE-MT	220	JA	1W
R5008	402 035 3801	RESISTER	0.47	KB	2W
R5009	401 021 1807	CARBON	560	JA	1/4W
R5010	401 019 9600	CARBON	47	JA	1/4W
R5101	402 042 1401	FUSIBLE RES	1.5	JA	1/4W
R5102	401 009 9702	CARBON	3.9K	JA	1/2W
T5001 ⚠	613 103 9957	TRANS,SW			
COMPL,PW-2					
COMPL.NO.	613 100 8434	(VHR-7810G)			
IC521	409 149 6704	IC STK5473			
R5201	401 019 7705	CARBON	4.3K	JA	1/4W
R5202	401 019 7705	CARBON	4.3K	JA	1/4W
COMPL,IR-1					
COMPL.NO.	613 100 9318	(VHR-7810G ONLY)			
	613 087 7420	INSULATOR			
	613 081 6726	HOLDER			
C5501	403 046 4009	ELECT	33U	M	25V
C5502	403 048 2706	ELECT	0.22U	M	50V
C5503	403 049 1005	ELECT	1U	M	50V
C5504	403 121 9509	CERAMIC	0.1U	Z	50V
C5505	403 046 4009	ELECT	33U	M	25V
C5506	403 044 7507	ELECT	10U	M	25V
C5507	403 046 4009	ELECT	33U	M	25V
C5508	403 121 9509	CERAMIC	0.1U	Z	50V
C5509	403 001 1609	CERAMIC	0.01U	K	16V
C5510	403 041 9603	ELECT	10U	M	16V
C5511	403 049 1005	ELECT	1U	M	50V
C5515	403 039 2708	ELECT	47U	M	6.3V
C5516	403 041 9603	ELECT	10U	M	16V
C5601	403 047 9201	ELECT	0.1U	M	50V
C5602	403 062 9507	POLYESTER	6800P	J	50V
C5603	403 159 1704	TA-SOLID	22U	K	10V
C5604	403 060 0209	POLYESTER	2700P	J	50V
C5610	403 048 7107	ELECT	0.47U	M	50V
C5611	403 060 7802	POLYESTER	0.033U	J	50V
C5612	403 090 3706	TA-SOLID	10U	K	10V
C5613	403 039 6102	ELECT	10U	M	10V
C5614	403 057 0007	POLYESTER	0.01U	J	50V
C5615	403 107 5303	TA-SOLID	2.2U	K	10V
C5616	403 060 5600	POLYESTER	3300P	J	50V
C5617	403 040 8102	ELECT	33U	M	10V
C5618	403 048 7107	ELECT	0.47U	M	50V
C5619	403 069 0309	CERAMIC	1000P	J	50V
C5620	403 071 5408	CERAMIC	220P	J	50V
C5621	403 049 1005	ELECT	1U	M	50V
C5622	403 001 1609	CERAMIC	0.01U	K	16V

LOCATION	PARTS NO.	DESCRIPTION
C5623	403 050 0707	ELECT 2.2U M 50V
C5624	403 026 2209	CERAMIC 47P J 50V
C5625	403 039 6102	ELECT 10U M 10V
C5626	403 038 2105	ELECT 100U M 6.3V
C5701	403 047 9201	ELECT 0.1U M 50V
C5702	403 062 9507	POLYESTER 6800P J 50V
C5703	403 159 1704	TA-SOLID 22U K 10V
C5704	403 060 0209	POLYESTER 2700P J 50V
C5710	403 048 7107	ELECT 0.47U M 50V
C5711	403 060 7802	POLYESTER 0.033U J 50V
C5712	403 090 3706	TA-SOLID 10U K 10V
C5713	403 039 6102	ELECT 10U M 10V
C5714	403 057 0007	POLYESTER 0.01U J 50V
C5715	403 107 5303	TA-SOLID 2.2U K 10V
C5716	403 060 5600	POLYESTER 3300P J 50V
C5717	403 040 8102	ELECT 33U M 10V
C5718	403 048 7107	ELECT 0.47U M 50V
C5719	403 069 0309	CERAMIC 1000P J 50V
C5720	403 068 8801	CERAMIC 100P J 50V
C5721	403 049 1005	ELECT 1U M 50V
C5722	403 001 1609	CERAMIC 0.01U K 16V
C5723	403 050 0707	ELECT 2.2U M 50V
C5724	403 026 2209	CERAMIC 47P J 50V
C5725	403 039 6102	ELECT 10U M 10V
C5726	403 038 2105	ELECT 100U M 6.3V
D5501	407 051 4405	ZENER DIODE GZS13Y-BT
OR	407 099 6805	ZENER DIODE MTZJ13B-T-77
D5502	407 012 4406	DIODE 1SS133-T-77
OR	407 007 9904	DIODE GMA01-BT
D5503	407 111 8909	LED SRZ-938C-4-AB
D5504	407 111 8909	LED SRZ-938C-4-AB
D5505	407 111 8909	LED SRZ-938C-4-AB
D5506	407 111 8909	LED SRZ-938C-4-AB
D5507	407 111 8909	LED SRZ-938C-4-AB
D5508	407 111 8909	LED SRZ-938C-4-AB
D5509	407 111 8909	LED SRZ-938C-4-AB
D5510	407 111 8909	LED SRZ-938C-4-AB
D5511	407 111 8909	LED SRZ-938C-4-AB
D5512	407 111 8909	LED SRZ-938C-4-AB
D5513	407 111 8909	LED SRZ-938C-4-AB
D5514	407 111 8909	LED SRZ-938C-4-AB
D5515	407 111 8909	LED SRZ-938C-4-AB
D5516	407 111 8909	LED SRZ-938C-4-AB
D5517	407 111 8909	LED SRZ-938C-4-AB
D5518	407 111 8909	LED SRZ-938C-4-AB
D5519	407 111 8909	LED SRZ-938C-4-AB
D5520	407 111 8909	LED SRZ-938C-4-AB
D5601	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D5602	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D5701	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D5702	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
IC551	409 036 8804	IC M5278L05-01
IC552	409 159 2208	IC AN6291K
IC553	409 039 7408	IC NJM4558D
IC554	409 080 3305	IC LA3226T
IC561	409 158 6405	IC NE566N
IC571	409 158 6405	IC NE566N
Q5501	405 086 3103	TR 2SD1683-T-LT
Q5502	405 086 3103	TR 2SD1683-T-LT
Q5503	405 007 6701	TR 2SB598-F-NP
Q5504	405 019 2807	TR 2SC536-F-SPA-AC
Q5602	405 004 4007	TR 2SA608-E-SPA-AC

LOCATION	PARTS NO.	DESCRIPTION
Q5603	405 004 4007	TR 2SA608-E-SPA-AC
Q5702	405 004 4007	TR 2SA608-E-SPA-AC
Q5703	405 004 4007	TR 2SA608-E-SPA-AC
R5502	401 018 2701	CARBON 330 JA 1/4W
R5503	401 010 9807	CARBON 6.8 JA 1/2W
R5504	401 010 9807	CARBON 6.8 JA 1/2W
R5505	401 010 9807	CARBON 6.8 JA 1/2W
R5506	401 010 9807	CARBON 6.8 JA 1/2W
R5507	401 010 9807	CARBON 6.8 JA 1/2W
R5508	401 010 9807	CARBON 6.8 JA 1/2W
R5509	401 019 8207	CARBON 43K JA 1/4W
R5510	401 012 8006	CARBON 100K JA 1/4W
R5511	401 012 5609	CARBON 1K JA 1/4W
R5512	401 018 7904	CARBON 3.6K JA 1/4W
R5513	401 019 0904	CARBON 390 JA 1/4W
R5514	401 016 3700	CARBON 2.2K JA 1/4W
R5515	401 016 8408	CARBON 24K JA 1/4W
R5516	401 087 2602	MT-FILM 1K FD 1/6W
R5520	401 012 9201	CARBON 1M JA 1/4W
R5601	401 016 4707	CARBON 22K JA 1/4W
R5602	401 020 7800	CARBON 510 JA 1/4W
R5603	401 020 8807	CARBON 51K JA 1/4W
R5604	401 014 5102	CARBON 15K JA 1/4W
R5605	401 020 8807	CARBON 51K JA 1/4W
R5606	401 018 2701	CARBON 330 JA 1/4W
R5614	401 012 6903	CARBON 10K JA 1/4W
R5615	401 012 5609	CARBON 1K JA 1/4W
R5616	401 021 1807	CARBON 560 JA 1/4W
R5618	401 014 5102	CARBON 15K JA 1/4W
R5619	401 017 9701	CARBON 30K JA 1/4W
R5620	401 017 2702	CARBON 27K JA 1/4W
R5621	401 016 8705	CARBON 240K JA 1/4W
R5622	401 023 2703	CARBON 8.2K JA 1/4W
R5623	401 015 4609	CARBON 180K JA 1/4W
R5624	401 017 3709	CARBON 270K JA 1/4W
R5625	401 020 8302	CARBON 5.1K JA 1/4W
R5626	401 023 3601	CARBON 82K JA 1/4W
R5627	401 021 2903	CARBON 5.6K JA 1/4W
R5628	401 013 1808	CARBON 11K JA 1/4W
R5629	401 017 3709	CARBON 270K JA 1/4W
R5630	401 013 6308	CARBON 12K JA 1/4W
R5631	401 013 6308	CARBON 12K JA 1/4W
R5635	401 020 2805	CARBON 47K JA 1/4W
R5636	401 013 9002	CARBON 130 JA 1/4W
R5637	401 012 4404	CARBON 100 JA 1/4W
R5701	401 016 4707	CARBON 22K JA 1/4W
R5702	401 020 7800	CARBON 510 JA 1/4W
R5703	401 020 8807	CARBON 51K JA 1/4W
R5704	401 014 5102	CARBON 15K JA 1/4W
R5705	401 020 8807	CARBON 51K JA 1/4W
R5706	401 018 2701	CARBON 330 JA 1/4W
R5714	401 012 6903	CARBON 10K JA 1/4W
R5715	401 012 5609	CARBON 1K JA 1/4W
R5716	401 021 1807	CARBON 560 JA 1/4W
R5718	401 014 5102	CARBON 15K JA 1/4W
R5719	401 017 9701	CARBON 30K JA 1/4W
R5720	401 017 2702	CARBON 27K JA 1/4W
R5721	401 016 8705	CARBON 240K JA 1/4W
R5722	401 023 2703	CARBON 8.2K JA 1/4W
R5723	401 015 4609	CARBON 180K JA 1/4W
R5724	401 018 8703	CARBON 360K JA 1/4W
R5725	401 019 1802	CARBON 3.9K JA 1/4W
R5726	401 018 4804	CARBON 33K JA 1/4W
R5727	401 020 1907	CARBON 4.7K JA 1/4W
R5728	401 012 6903	CARBON 10K JA 1/4W
R5729	401 017 3709	CARBON 270K JA 1/4W
R5730	401 012 6903	CARBON 10K JA 1/4W
R5731	401 018 7904	CARBON 3.6K JA 1/4W

LOCATION	PARTS NO.	DESCRIPTION
R5735	401 020 2805	CARBON 47K JA 1/4W
R5736	401 013 9002	CARBON 130 JA 1/4W
R5737	401 012 4404	CARBON 100 JA 1/4W
SW551	613 081 5347	SW,PUSH 2-2
VR551	613 001 8991	SEMI VR 2.2KB
OR	613 001 9387	SEMI VR 2KB
VR561	613 001 9011	SEMI VR 4.7KB
OR	613 001 9400	SEMI VR 5KB
VR571	613 001 9011	SEMI VR 4.7KB
OR	613 001 9400	SEMI VR 5KB
IF PACK		
COMPL.NO.	613 108 3578	
C6103	403 009 5906	CERAMIC 100P J 50V
C6104	403 069 9500	CERAMIC 0.01U Z 50V
C6105	403 069 9500	CERAMIC 0.01U Z 50V
C6106	403 069 9500	CERAMIC 0.01U Z 50V
C6107	403 069 9500	CERAMIC 0.01U Z 50V
C6108	403 032 5300	CERAMIC 8P C 50V
C6109	403 042 3006	ELECT 100U M 16V
C6110	403 069 9500	CERAMIC 0.01U Z 50V
C6111	403 068 0409	CERAMIC 0.1U Z 25V
C6112	403 069 1702	CERAMIC 1000P K 50V
C6113	403 050 0509	ELECT 2.2U M 50V
C6114	403 069 9500	CERAMIC 0.01U Z 50V
C6115	403 022 8403	CERAMIC 33P J 50V
C6116	403 069 9500	CERAMIC 0.01U Z 50V
C6117	403 048 4809	ELECT 0.33U M 50V
C6118	403 069 9500	CERAMIC 0.01U Z 50V
C6119	403 068 0409	CERAMIC 0.1U Z 25V
C6120	403 068 0409	CERAMIC 0.1U Z 25V
C6123	403 069 9500	CERAMIC 0.01U Z 50V
C6124	403 042 3006	ELECT 100U M 16V
C6130	403 069 9500	CERAMIC 0.01U Z 50V
C6131	403 069 9500	CERAMIC 0.01U Z 50V
C6132	403 010 8705	CERAMIC 12P J 50V
C6133	403 030 7405	CERAMIC 68P J 50V
C6134	403 068 0409	CERAMIC 0.1U Z 25V
C6136	403 014 3607	CERAMIC 18P J 50V
C6137	403 188 1805	CERAMIC 93P H 50V
C6138	403 048 6902	ELECT 0.47U M 50V
C6139	403 022 8403	CERAMIC 33P J 50V
C6140	403 049 0800	ELECT 1U M 50V
C6141	403 008 7604	CERAMIC 10P D 50V
C6143	403 073 4201	CERAMIC 3900P K 50V
C6144	403 047 0604	ELECT 4.7U M 25V
C6147	403 069 9500	CERAMIC 0.01U Z 50V
C6148	403 042 3006	ELECT 100U M 16V
C6149	403 033 4708	CERAMIC 82P J 50V
C6150	403 069 9500	CERAMIC 0.01U Z 50V
C6151	403 069 9500	CERAMIC 0.01U Z 50V
C6155	403 069 9500	CERAMIC 0.01U Z 50V
C6161	403 032 8608	CERAMIC 8P D 50V
C6162	403 032 8608	CERAMIC 8P D 50V
C6164	403 022 8403	CERAMIC 33P J 50V
C6165	403 025 1807	CERAMIC 4P C 50V
C6166	403 025 1807	CERAMIC 4P C 50V
C6167	403 008 7604	CERAMIC 10P D 50V
C6168	403 109 9200	CERAMIC 27P J 50V
C6170	403 008 7604	CERAMIC 10P D 50V
D6101	407 053 8906	ZENER DIODE MTZ9.1C
IC611	409 036 0105	IC M51366SP
IC612	409 056 6903	IC UPC1391HAMS

LOCATION	PARTS NO.	DESCRIPTION
J6107	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
J6108	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
J6109	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
J6112	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
J6116	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
J6117	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
J6118	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
L6101	613 103 3986	TRANS.IF
L6102	613 014 0753	COIL.INDUCTOR 1.5UHM
L6103	613 014 0722	COIL.INDUCTOR 0.82UHM
L6104	613 014 0807	COIL.INDUCTOR 3.9UHK
L6105	613 014 0913	COIL.INDUCTOR 33UHK
L6106	613 095 2462	TRANS.IF
L6107	613 103 3979	TRANS.IF
L6108	613 014 0845	COIL.INDUCTOR 8.2UHK
L6109	613 088 8396	TRANS.IF
L6110	613 119 5653	TRANS.IF
L6111	613 014 0692	COIL.INDUCTOR 0.47UHM
L6113	613 119 3932	TRANS.IF
L6114	613 119 3932	TRANS.IF
Q6101	405 090 3304	TR 2SC3838K-ADP-T96
Q6102	405 004 3901	TR 2SA608-E-NP
Q6103	405 090 3304	TR 2SC3838K-ADP-T96
Q6105	405 015 8407	TR 2SC2812-L5-TB
R6101	402 023 4506	FUSIBLE RES 27 JA 1/2W
R6102	401 038 6307	MT-GLAZE 470 JA 1/10W
R6103	401 038 7700	MT-GLAZE 5.6K JA 1/10W
R6104	401 037 6704	MT-GLAZE 1.2K JA 1/10W
R6105	401 038 0503	MT-GLAZE 22 JA 1/10W
R6106	401 037 9101	MT-GLAZE 180 JA 1/10W
R6107	401 037 9101	MT-GLAZE 180 JA 1/10W
R6109	401 038 3603	MT-GLAZE 3.3K JA 1/10W
R6110	401 038 3801	MT-GLAZE 330K JA 1/10W
R6111	401 037 9309	MT-GLAZE 18K JA 1/10W
R6112	401 038 3801	MT-GLAZE 330K JA 1/10W
R6113	401 038 7809	MT-GLAZE 56K JA 1/10W
R6114	401 038 9209	MT-GLAZE 6.8K JA 1/10W
R6115	401 038 5102	MT-GLAZE 3.9K JA 1/10W
R6116	401 038 7700	MT-GLAZE 5.6K JA 1/10W
R6117	401 038 0701	MT-GLAZE 2.2K JA 1/10W
R6118	401 038 2101	MT-GLAZE 2.7K JA 1/10W
R6119	401 038 2101	MT-GLAZE 2.7K JA 1/10W
R6120	401 037 7909	MT-GLAZE 1.5K JA 1/10W
R6121	401 039 0601	MT-GLAZE 820K JA 1/10W
R6122	401 039 0403	MT-GLAZE 8.2K JA 1/10W
R6123	401 038 3504	MT-GLAZE 330 JA 1/10W
R6124	401 039 0403	MT-GLAZE 8.2K JA 1/10W
R6125	401 038 3504	MT-GLAZE 330 JA 1/10W
R6126	401 037 5400	MT-GLAZE 1K JA 1/10W
R6127	401 036 8105	MT-GLAZE 470 JA 1/8W
R6128	401 037 1709	MT-GLAZE 68 JA 1/8W
R6129	401 037 5202	MT-GLAZE 100 JA 1/10W
R6130	401 038 3702	MT-GLAZE 33K JA 1/10W
R6136	401 038 6307	MT-GLAZE 470 JA 1/10W
R6137	401 038 7205	MT-GLAZE 5.1K JA 1/10W
R6138	401 038 6208	MT-GLAZE 47 JA 1/10W
R6139	401 037 9200	MT-GLAZE 1.8K JA 1/10W
R6140	401 037 5608	MT-GLAZE 10K JA 1/10W
R6141	401 037 5608	MT-GLAZE 10K JA 1/10W
R6142	401 037 5400	MT-GLAZE 1K JA 1/10W
R6144	401 037 5202	MT-GLAZE 100 JA 1/10W
R6145	401 039 0304	MT-GLAZE 820 JA 1/10W
R6146	401 038 6208	MT-GLAZE 47 JA 1/10W
R6147	401 038 6505	MT-GLAZE 47K JA 1/10W
R6148	401 037 6704	MT-GLAZE 1.2K JA 1/10W
R6149	401 038 0602	MT-GLAZE 220 JA 1/10W

LOCATION	PARTS NO.	DESCRIPTION
R6152	401 037 5400	MT-GLAZE 1K JA 1/10W
R6153	401 038 5003	MT-GLAZE 390 JA 1/10W
R6154	401 038 6406	MT-GLAZE 4.7K JA 1/10W
R6155	401 037 5400	MT-GLAZE 1K JA 1/10W
R6158	401 037 5400	MT-GLAZE 1K JA 1/10W
R6161	401 038 6406	MT-GLAZE 4.7K JA 1/10W
R6163	401 038 6307	MT-GLAZE 470 JA 1/10W
R6164	401 038 3504	MT-GLAZE 330 JA 1/10W
R6165	401 038 3504	MT-GLAZE 330 JA 1/10W
R6166	401 098 7603	MT-GLAZE 2.2 JA 1/10W
R6167	401 037 9101	MT-GLAZE 180 JA 1/10W
R6170	401 037 5202	MT-GLAZE 100 JA 1/10W
R6171	401 037 6605	MT-GLAZE 120 JA 1/10W
VR611	613 002 1137	SEMI VR 1KB
X6101	421 003 1007	SAW F TSF1342L
X6102	422 000 8204	SAW F SAF33.0MC70Z
X6104	613 119 3918	TRAP,5.5MHZ
X6105	613 088 8372	FILTER,5.85M
X6107	613 084 1704	FILTER
X6110	613 119 3925	FILTER,5.74MHZ B.P
X6111	613 086 1191	DISCR,CERAMIC
X6112	613 092 4797	FILTER
DECODER		
COMPL.NO.	613 104 3091	
B6301	405 018 1900	TR 2SC3395-TB
B6302	405 018 2006	TR 2SC3396-TB
B6303	405 018 2402	TR 2SC3398-TB
B6304	405 018 1900	TR 2SC3395-TB
B6305	405 018 1900	TR 2SC3395-TB
C6301	403 047 0604	ELECT 4.7U M 25V
C6302	403 047 0604	ELECT 4.7U M 25V
C6303	403 047 0604	ELECT 4.7U M 25V
C6304	403 067 7706	MT-COMPO 0.047U J 50V
C6305	403 067 7706	MT-COMPO 0.047U J 50V
C6306	403 067 7706	MT-COMPO 0.047U J 50V
C6307	403 069 9500	CERAMIC 0.01U Z 50V
C6308	403 046 2104	ELECT 3.3U M 25V
C6309	403 042 8308	ELECT 22U M 16V
C6310	403 067 7805	MT-COMPO 0.47U J 50V
C6311	403 067 7409	MT-COMPO 0.039U J 50V
C6312	403 067 7409	MT-COMPO 0.039U J 50V
C6313	403 067 7409	MT-COMPO 0.039U J 50V
C6314	403 067 7409	MT-COMPO 0.039U J 50V
C6315	403 050 0509	ELECT 2.2U M 50V
C6316	403 042 3006	ELECT 100U M 16V
C6317	403 069 9500	CERAMIC 0.01U Z 50V
C6318	403 069 9500	CERAMIC 0.01U Z 50V
C6319	403 042 3006	ELECT 100U M 16V
D6301	407 004 8009	DIODE DSB015-TB
IC631	409 135 9108	IC TDA3803A
J6301	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
J6302	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
L6301	613 084 7683	HF CHOKE 54.7KHZ
Q6301	405 015 8308	TR 2SC2812-L4-TB
OR	405 015 8407	TR 2SC2812-L5-TB
OR	405 015 8704	TR 2SC2812-L6-TB
Q6302	405 015 8308	TR 2SC2812-L4-TB
OR	405 015 8407	TR 2SC2812-L5-TB
OR	405 015 8704	TR 2SC2812-L6-TB

LOCATION	PARTS NO.	DESCRIPTION
Q6303	405 015 8308	TR 2SC2812-L4-TB
OR	405 015 8407	TR 2SC2812-L5-TB
OR	405 015 8704	TR 2SC2812-L6-TB
R6301	401 037 5400	MT-GLAZE 1K JA 1/10W
R6302	401 037 5400	MT-GLAZE 1K JA 1/10W
R6303	401 037 5608	MT-GLAZE 10K JA 1/10W
R6304	401 039 1004	MT-GLAZE 9.1K JA 1/10W
R6305	401 037 5608	MT-GLAZE 10K JA 1/10W
R6306	401 037 5400	MT-GLAZE 1K JA 1/10W
R6307	401 037 5400	MT-GLAZE 1K JA 1/10W
R6308	401 038 7700	MT-GLAZE 5.6K JA 1/10W
R6309	401 038 7809	MT-GLAZE 56K JA 1/10W
R6310	401 108 3007	MT-GLAZE 1M FD 1/10W
R6311	401 108 3106	MT-GLAZE 330K FD 1/10W
R6312	401 108 3106	MT-GLAZE 330K FD 1/10W
R6313	401 108 3205	MT-GLAZE 620K FD 1/10W
R6314	401 152 4708	MT-GLAZE 150K FD 1/10W
R6315	401 020 0801	CARBON 470 JA 1/4W
R6316	401 020 0801	CARBON 470 JA 1/4W
R6317	401 024 7004	CARBON 1K JA 1/6W
R6318	401 037 5400	MT-GLAZE 1K JA 1/10W
R6319	401 037 5202	MT-GLAZE 100 JA 1/10W
VR631	613 001 5013	SEMI VR 15KB
VR632	613 002 1410	SEMI VR 2KB
VR633	613 002 1397	SEMI VR 500B
COMPL,TN-7		
COMPL.NO.	613 109 4420	
B6901	405 018 1900	TR 2SC3395-TB
OR	405 029 3504	TR DTC144EK-T96
C6901	403 068 0409	CERAMIC 0.1U Z 25V
C6902	403 189 2405	ELECT 10U M 16V
C6903	403 072 3403	CERAMIC 0.022U Z 50V
C6904	403 193 8400	ELECT 0.22U M 50V
C6921	403 068 0409	CERAMIC 0.1U Z 25V
D6901	407 004 0706	DIODE DCB015-TB
OR	407 003 3609	DIODE DAN202K-T-96
D6902	407 003 5108	DIODE DA204K-T96
J6901	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
Q6901	405 015 8308	TR 2SC2812-L4-TB
OR	405 015 8407	TR 2SC2812-L5-TB
OR	405 014 4400	TR 2SC2412K-T96-Q
OR	405 014 4509	TR 2SC2412K-T96-R
Q6902	405 030 7201	TR 2SA1338-4-TB
OR	405 030 7300	TR 2SA1338-5-TB
Q6903	405 015 8308	TR 2SC2812-L4-TB
OR	405 015 8407	TR 2SC2812-L5-TB
OR	405 014 4400	TR 2SC2412K-T96-Q
OR	405 014 4509	TR 2SC2412K-T96-R
R6901	401 037 5400	MT-GLAZE 1K JA 1/10W
R6902	401 038 3504	MT-GLAZE 330 JA 1/10W
R6903	401 038 8509	MT-GLAZE 620 JA 1/10W
R6904	401 037 5608	MT-GLAZE 10K JA 1/10W
R6905	401 038 3801	MT-GLAZE 330K JA 1/10W
R6906	401 037 5608	MT-GLAZE 10K JA 1/10W
R6907	401 038 3603	MT-GLAZE 3.3K JA 1/10W
R6908	401 039 0205	MT-GLAZE 82 JA 1/10W
R6909	401 037 5400	MT-GLAZE 1K JA 1/10W
R6910	401 038 7106	MT-GLAZE 510 JA 1/10W
R6911	401 038 7700	MT-GLAZE 5.6K JA 1/10W
R6912	401 038 5102	MT-GLAZE 3.9K JA 1/10W

LOCATION	PARTS NO.	DESCRIPTION
T6901	613 109 0958	TRANS.IF
OR	613 109 0965	TRANS.IF
COMPL.TM-1		
COMPL.NO.	613 112 7555	
	613 091 8512	HOLDER.DIGITRON
A7101	613 094 9837	FLUORESCENT TUBE
B7181	405 063 9609	TR DTA114EL-TL2
B7182	405 063 9609	TR DTA114EL-TL2
B7183	405 063 8404	TR DTC114EL-TL2
B7184	405 063 9609	TR DTA114EL-TL2
B7185	405 063 9609	TR DTA114EL-TL2
B7186	405 063 9609	TR DTA114EL-TL2
C7102	403 014 2501	CERAMIC 18P J 50V
C7103	403 017 0108	CERAMIC 20P J 50V
C7104	403 001 1609	CERAMIC 0.01U K 16V
C7105	403 139 1601	ELECT 22U M 16V
C7106	403 001 1609	CERAMIC 0.01U K 16V
C7107	403 001 1609	CERAMIC 0.01U K 16V
C7108	403 139 2608	ELECT 0.47U M 50V
C7111	403 121 9509	CERAMIC 0.1U Z 50V
C7113	403 139 1502	ELECT 10U M 16V
C7181	403 139 1601	ELECT 22U M 16V
C7182	403 001 1906	CERAMIC 0.01U M 16V
C7183	403 139 2707	ELECT 1U M 50V
C7184	403 139 2707	ELECT 1U M 50V
C7185	403 139 1502	ELECT 10U M 16V
C7186	403 139 1502	ELECT 10U M 16V
C7187	403 001 1906	CERAMIC 0.01U M 16V
D7101	407 120 5807	DIODE AK04-V2
D7103	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D7104	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D7105	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D7106	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D7107	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D7108	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D7109	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D7110	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D7112	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D7113	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D7118	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D7120	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D7123	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D7125	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D7181	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D7182	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D7183	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77

LOCATION	PARTS NO.	DESCRIPTION
D7186	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
D7187	407 007 9904	DIODE GMA01-BT
OR	407 012 4406	DIODE 1SS133-T-77
IC711	409 214 4000	IC M50959-292SP
IC712	409 032 3308	IC MN1280-L
IC791	409 169 4704	IC BA6810S
R7101	401 012 9201	CARBON 1M JA 1/4W
R7102	401 110 6201	CARBON 10M JA 1/4W
R7103	401 018 5702	CARBON 330K JA 1/4W
R7104	401 012 5609	CARBON 1K JA 1/4W
R7105	401 012 6903	CARBON 10K JA 1/4W
R7106	401 012 5609	CARBON 1K JA 1/4W
R7107	401 012 6903	CARBON 10K JA 1/4W
R7108	401 012 5609	CARBON 1K JA 1/4W
R7109	401 012 6903	CARBON 10K JA 1/4W
R7110	401 012 5609	CARBON 1K JA 1/4W
R7111	401 012 6903	CARBON 10K JA 1/4W
R7112	401 012 6903	CARBON 10K JA 1/4W
R7114	401 012 6903	CARBON 10K JA 1/4W
R7115	401 012 6903	CARBON 10K JA 1/4W
R7116	401 016 4707	CARBON 22K JA 1/4W
R7117	401 012 6903	CARBON 10K JA 1/4W
R7118	401 012 5609	CARBON 1K JA 1/4W
R7119	401 012 5609	CARBON 1K JA 1/4W
R7121	401 012 6903	CARBON 10K JA 1/4W
R7122	401 012 5609	CARBON 1K JA 1/4W
R7123	401 012 5609	CARBON 1K JA 1/4W
R7124	401 018 4804	CARBON 33K JA 1/4W
R7126	401 012 6903	CARBON 10K JA 1/4W
R7127	401 012 6903	CARBON 10K JA 1/4W
R7132	401 012 6903	CARBON 10K JA 1/4W
R7133	401 018 5702	CARBON 330K JA 1/4W
R7181	401 020 2805	CARBON 47K JA 1/4W
R7182	401 022 7105	CARBON 750 JA 1/4W
R7183	401 020 2805	CARBON 47K JA 1/4W
R7184	401 020 2805	CARBON 47K JA 1/4W
R7185	401 012 8006	CARBON 100K JA 1/4W
R7186	401 020 1907	CARBON 4.7K JA 1/4W
R7187	401 012 5609	CARBON 1K JA 1/4W
R7188	401 016 3700	CARBON 2.2K JA 1/4W
RB791	613 097 1289	R-NETWORK,100KX7
RB792	613 079 9746	R-NETWORK,100KX8
RR711	613 094 0438	IR RECEIVER PACK
VR241	613 001 8618	SEMI VR 10K
VR242	613 001 8618	SEMI VR 10K
X7101	613 089 4069	RESONATOR,CERAMIC 6MHZ
OR	613 108 9570	RESONATOR,CERAMIC 6MHZ
X7102	613 109 0972	OSC,CRYSTAL 32KHZ
COMPL,TM-2		
COMPL.NO.	613 112 7579	
	613 089 7541	BLIND,VR
	613 053 6495	FIXER
C7188	403 001 1609	CERAMIC 0.01U K 16V
C7189	403 001 1609	CERAMIC 0.01U K 16V
CN798	613 087 2791	JACK,MIC
CN799	613 091 4071	JACK,HEADPHONE
L7181	613 014 1200	COIL,INDUCTOR 100UHJ

LOCATION	PARTS NO.	DESCRIPTION
L7182	613 014 1200	COIL,INDUCTOR 100UHJ
R7191	401 012 5609	CARBON 1K JA 1/4W
R7192	401 012 5609	CARBON 1K JA 1/4W
S7181	613 103 3863	SLIDE SWITCH
VR771	613 091 5450	VR,ROTARY 10KB
VR793	613 111 8010	VR,ROTARY 10K B
VR794	613 111 8010	VR,ROTARY 10K B
VR795	613 113 5161	VR,SLIDE 10KB
VR796	613 113 5161	VR,SLIDE 10KB

COMPL,TM-8

COMPL.NO. 613 108 5534

C7802	403 013 3103	CERAMIC 150P J 50V
C7803	403 067 7300	MT-COMPO 0.33U J 50V
OR	403 115 1007	MT-POLYEST 0.33U J 63V
OR	403 168 6202	MT-POLYEST 0.33U J 50V
C7804	403 057 2407	POLYESTER 0.1U J 50V
C7805	403 068 0409	CERAMIC 0.1U Z 25V
C7806	403 193 7502	ELECT 22U M 6.3V
IC781	409 148 5104	IC SDA5642
Q7801	405 015 8407	TR 2SC2812-L5-TB
OR	405 015 8704	TR 2SC2812-L6-TB
OR	405 014 4400	TR 2SC2412K-T96-Q
OR	405 014 4509	TR 2SC2412K-T96-R
R7801	401 038 6307	MT-GLAZE 470 JA 1/10W
R7802	401 037 5400	MT-GLAZE 1K JA 1/10W
R7803	401 037 5400	MT-GLAZE 1K JA 1/10W
R7804	401 037 9101	MT-GLAZE 180 JA 1/10W
R7805	401 038 0701	MT-GLAZE 2.2K JA 1/10W
R7806	401 037 5806	MT-GLAZE 1M JA 1/10W
R7807	401 039 0601	MT-GLAZE 820K JA 1/10W
R7808	401 037 5707	MT-GLAZE 100K JA 1/10W
R7809	401 037 5608	MT-GLAZE 10K JA 1/10W
R7810	401 037 7008	MT-GLAZE 1.2M JA 1/10W
R7811	401 037 5202	MT-GLAZE 100 JA 1/10W
R7812	401 038 7700	MT-GLAZE 5.6K JA 1/10W

COMPL,TB-1

COMPL.NO. 613 111 8829

C8502	403 071 6207	CERAMIC 220P K 50V
C8504	403 071 6207	CERAMIC 220P K 50V
C8506	403 071 6207	CERAMIC 220P K 50V
C8508	403 071 6207	CERAMIC 220P K 50V
C8522	403 071 6207	CERAMIC 220P K 50V
C8524	403 071 6207	CERAMIC 220P K 50V
C8526	403 071 6207	CERAMIC 220P K 50V
C8528	403 071 6207	CERAMIC 220P K 50V
CN853	613 077 0905	SOCKET,21P
OR	613 105 6633	SOCKET,21P
D8501	407 053 6704	ZENER DIODE MTZ5.6B-T-77
D8502	407 053 6704	ZENER DIODE MTZ5.6B-T-77
D8503	407 053 6704	ZENER DIODE MTZ5.6B-T-77
D8504	407 053 6704	ZENER DIODE MTZ5.6B-T-77
JK851	613 009 1529	SOCKET
JK852	613 085 8092	SOCKET
JK853	613 009 1529	SOCKET
JK854	613 085 8092	SOCKET

LOCATION	PARTS NO.	DESCRIPTION
R8501	401 012 5609	CARBON 1K JA 1/4W
R8502	401 012 5609	CARBON 1K JA 1/4W
R8503	401 022 1806	CARBON 680 JA 1/4W
R8504	401 022 1806	CARBON 680 JA 1/4W
R8505	401 016 5704	CARBON 220K JA 1/4W
R8521	401 012 5609	CARBON 1K JA 1/4W
R8522	401 012 5609	CARBON 1K JA 1/4W
R8523	401 022 1806	CARBON 680 JA 1/4W
R8524	401 022 1806	CARBON 680 JA 1/4W
R8525	401 016 5704	CARBON 220K JA 1/4W
R8541	401 022 6702	CARBON 75 JA 1/4W
VR361	613 097 0572	VR,ROTARY 100KB
OR	613 117 3354	VR,ROTARY 100KB

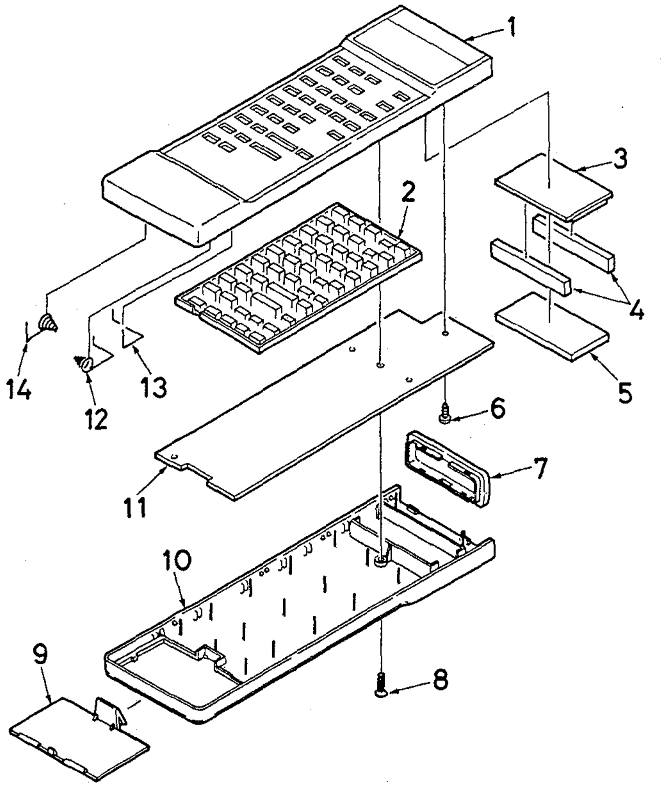
ACCESSORIES

	613 113 3600	REMOCON
	613 113 2825	INSTRUCTION MANUAL(VHR-7800G)
OR	613 115 5220	INSTRUCTION MANUAL(VHR-7810G)
	613 096 6773	CABLE.ANT
	613 101 0666	COMPL.IR UNIT(VHR-7810G ONLY)

PACKING MATERIALS

	613 113 2719	CORR CASE,INNER(VHR-7800G)
OR	613 118 0093	CORR CASE.INNER(VHR-7810G)
	613 113 2733	CUSHION.INNER,FRONT(VHR-7800G)
OR	613 118 0116	CUSHION.INNER,FRONT(VHR-7810G)
	613 113 2740	CUSHION.INNER.BACK(VHR-7800G)
OR	613 118 0123	CUSHION.INNER,BACK(VHR-7810G)
	613 095 1229	POLYE COVER.INNER
	613 107 8970	BAR CODE LABEL

LOCATION	PARTS NO.	DESCRIPTION
REMOCON		
COMPL.NO.	613 113 3600	
1	613 113 9633	ASSY.CABINET,TOP
2	613 113 9268	BUTTON
3	613 087 0087	LCD
4	613 080 9520	CONNECTOR
5	613 080 9728	SPACER
6	411 022 7807	SCR S-TPG PAN 2X6
7	613 080 9681	SIGN WINDOW
8	411 101 7308	SCR S-TPG FLT 2.6X10
9	613 040 1724	BATTERY LID
10	613 040 0727	BOTTOM LID
11	613 110 1128	COMPL,RM-1
12	613 080 9759	TERMINAL,-(INCLUDE RM-1)
13	613 080 9742	TERMINAL,+(INCLUDE RM-1)
14	613 080 9735	TERMINAL



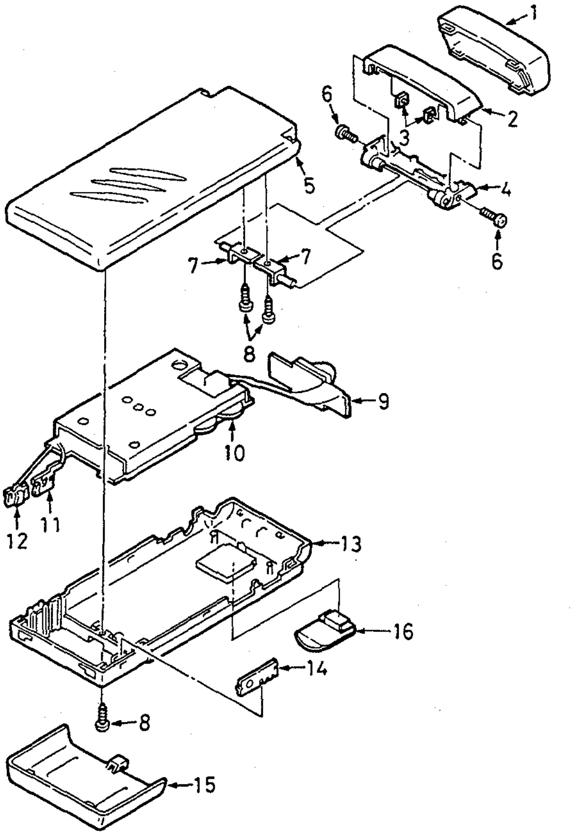
COMPL,RM-1

COMPL.NO.	613 110 1128			
C1	403 068 0409	CERAMIC	0.1U Z	25V
C2	403 049 0800	ELECT	1U M	50V
C3	613 087 2043	CAP,TRIM 20P		
C4	403 068 0409	CERAMIC	0.1U Z	25V
C5	403 068 0409	CERAMIC	0.1U Z	25V
C6	403 068 0409	CERAMIC	0.1U Z	25V
C7	403 038 1603	ELECT	100U M	6.3V

LOCATION	PARTS NO.	DESCRIPTION
IC1	409 218 2309	IC LC5863H-1120
IC2	409 129 3402	IC UPD74HC08G
OR	409 208 1909	IC MLC74HC08AM
OR	409 221 3102	IC MC74HC08AF
LED1	407 040 3709	LED SLR-932A
Q1	405 021 2406	TR 2SD1048-X7-TB
OR	405 021 2505	TR 2SD1048-X8-TB
R1	401 037 5202	MT-GLAZE 100 JA 1/10W
R2	401 015 6405	CARBON 2.2 JA 1/4W
R3	401 037 5202	MT-GLAZE 100 JA 1/10W
R5	401 039 0601	MT-GLAZE 820K JA 1/10W
X1	613 082 8156	OSC,CRYSTAL 38.2293KHZ

COMPL,IR UNIT

COMPL.NO.	613 101 0666	(VHR-7810G ONLY)
1	613 102 1945	WINDOW
2	613 102 3505	CABINET,TOP
3	613 105 7807	BRACKET,NUT
4	613 102 1860	CABINET,BOTTOM
5	613 107 0462	ASSY,CABINET,TOP
6	411 030 5901	SCR BIN 2X4
7	613 103 8677	ASSY,BRACKET
8	411 025 4308	SCR S-TPG BIN 2X6
9	613 100 9332	COMPL,IR-3
10	613 100 9325	COMPL,IR-2
11	613 102 1921	TERMINAL,+
12	613 102 1938	TERMINAL,-
13	613 107 0479	ASSY,CABINET,BOTTOM
14	613 102 1914	TERMINAL
15	613 102 1891	LID
16	613 102 2157	BRACKET



LOCATION	PARTS NO.	DESCRIPTION
COMPL,IR-2		
COMPL.NO.	613 100 9325	(VHR-7810G ONLY)
	613 051 9955	BRACKET PL
	613 106 1736	INSULATOR
C5801	403 001 5003	CERAMIC 2200P K 16V
C5802	403 028 9800	CERAMIC 560P J 50V
C5803	403 018 7403	CERAMIC 220P J 50V
C5804	403 009 5708	CERAMIC 100P J 50V
C5806	403 023 4503	CERAMIC 330P J 50V
C5807	403 041 9603	ELECT 10U M 16V
C5808	403 039 2708	ELECT 47U M 6.3V
C5809	403 048 7107	ELECT 0.47U M 50V
C5810	403 048 7107	ELECT 0.47U M 50V
C5811	403 168 4406	POLYESTER 4700P J 50V
C5812	403 074 8703	CERAMIC 680P J 50V
C5813	403 049 1005	ELECT 1U M 50V
C5814	403 168 4604	MT-COMPO 0.018U J 50V
C5815	403 041 9603	ELECT 10U M 16V
C5816	403 111 8000	CERAMIC 1200P J 50V
C5817	403 050 7201	ELECT 3.3U M 50V
C5822	403 048 7107	ELECT 0.47U M 50V
C5823	403 152 5303	MT-COMPO 0.033U J 50V
C5824	403 047 9201	ELECT 0.1U M 50V
C5825	403 168 3904	TA-SOLID 10U J 6.3V
C5826	403 168 4000	TA-SOLID 22U J 6.3V
C5827	403 168 4208	POLYESTER 2700P J 50V
C5828	403 168 4307	POLYESTER 6800P J 50V
C5829	403 041 9603	ELECT 10U M 16V
C5830	403 041 9603	ELECT 10U M 16V
C5831	403 168 4505	POLYESTER 0.01U J 50V
C5832	403 070 6703	CERAMIC 0.012U K 50V
C5833	403 048 7107	ELECT 0.47U M 50V
C5834	403 038 2105	ELECT 100U M 6.3V
C5835	403 068 0409	CERAMIC 0.1U Z 25V
C5836	403 068 0409	CERAMIC 0.1U Z 25V
C5841	403 073 1200	CERAMIC 0.033U K 50V
C5851	403 010 1102	CERAMIC 1000P J 50V
C5852	403 026 7501	CERAMIC 470P J 50V
C5853	403 023 4404	CERAMIC 330P J 50V
C5854	403 018 7403	CERAMIC 220P J 50V
C5855	403 018 7403	CERAMIC 220P J 50V
C5856	403 023 4503	CERAMIC 330P J 50V
C5857	403 041 9603	ELECT 10U M 16V
C5858	403 038 5601	ELECT 22U M 6.3V
C5859	403 048 7107	ELECT 0.47U M 50V
C5860	403 048 7107	ELECT 0.47U M 50V
C5861	403 168 4109	POLYESTER 680P J 50V
C5862	403 072 7500	CERAMIC 330P J 50V
C5863	403 048 7107	ELECT 0.47U M 50V
C5864	403 168 4604	MT-COMPO 0.018U J 50V
C5865	403 041 9603	ELECT 10U M 16V
C5866	403 014 9203	CERAMIC 180P J 50V
C5867	403 050 7201	ELECT 3.3U M 50V
C5872	403 048 7107	ELECT 0.47U M 50V
C5873	403 152 5303	MT-COMPO 0.033U J 50V
C5874	403 047 9201	ELECT 0.1U M 50V
C5875	403 168 3904	TA-SOLID 10U J 6.3V
C5876	403 168 4000	TA-SOLID 22U J 6.3V
C5877	403 168 4208	POLYESTER 2700P J 50V
C5878	403 168 4307	POLYESTER 6800P J 50V
C5879	403 049 1005	ELECT 1U M 50V
C5880	403 041 9603	ELECT 10U M 16V
C5881	403 168 4505	POLYESTER 0.01U J 50V
C5882	403 070 6703	CERAMIC 0.012U K 50V
C5883	403 048 7107	ELECT 0.47U M 50V
C5884	403 038 2105	ELECT 100U M 6.3V
C5885	403 068 0409	CERAMIC 0.1U Z 25V
C5886	403 068 0409	CERAMIC 0.1U Z 25V
C5891	403 073 1200	CERAMIC 0.033U K 50V
C5905	403 038 2105	ELECT 100U M 6.3V
C5906	403 068 0409	CERAMIC 0.1U Z 25V
C5908	403 038 2105	ELECT 100U M 6.3V
C5911	403 018 7403	CERAMIC 220P J 50V
C5912	403 018 7403	CERAMIC 220P J 50V
C5913	403 069 5601	CERAMIC 0.01U K 50V
C5914	403 069 5601	CERAMIC 0.01U K 50V
C5915	403 048 7107	ELECT 0.47U M 50V
C5916	403 047 0802	ELECT 4.7U M 25V
C5917	403 038 2105	ELECT 100U M 6.3V
C5918	403 039 2708	ELECT 47U M 6.3V
D5801	407 003 5108	DIODE DA204K-T96
D5851	407 003 5108	DIODE DA204K-T96
D5901	407 090 5401	LED BR3423S
D5911	407 116 6108	DIODE 0A90AG
D5912	407 116 6108	DIODE 0A90AG
D5914	407 003 5108	DIODE DA204K-T96
IC581	409 176 0102	IC AN7227
IC582	409 176 0102	IC AN7227
IC591	409 159 2208	IC AN6291K
IC592	409 081 6909	IC LA4533M
JK591	613 101 1847	JACK,MINI
L5801	613 103 6185	COIL,INDUCTOR 4.7MH J
L5802	613 103 6185	COIL,INDUCTOR 4.7MH J
L5803	613 014 1019	COIL,INDUCTOR 220UHK
L5804	613 013 6695	HF CHOKE 560UJ
L5851	613 103 6178	COIL,INDUCTOR 2.2MH J
L5852	613 103 6161	COIL,INDUCTOR 1MH J
L5853	613 013 6367	HF CHOKE 220UK
L5854	613 013 6695	HF CHOKE 560UJ
Q5801	405 015 8704	TR 2SC2812-L6-TB
OR	405 015 8902	TR 2SC2812-L7-TB
Q5802	405 015 8407	TR 2SC2812-L5-TB
OR	405 015 8704	TR 2SC2812-L6-TB
Q5851	405 015 8704	TR 2SC2812-L6-TB
OR	405 015 8902	TR 2SC2812-L7-TB
Q5852	405 015 8407	TR 2SC2812-L5-TB
OR	405 015 8704	TR 2SC2812-L6-TB
Q5911	405 015 8407	TR 2SC2812-L5-TB
OR	405 015 8704	TR 2SC2812-L6-TB
Q5912	405 015 8407	TR 2SC2812-L5-TB
OR	405 015 8704	TR 2SC2812-L6-TB
Q5913	405 015 8407	TR 2SC2812-L5-TB
OR	405 015 8704	TR 2SC2812-L6-TB
Q5914	405 015 8407	TR 2SC2812-L5-TB
OR	405 015 8704	TR 2SC2812-L6-TB
Q5915	405 015 8407	TR 2SC2812-L5-TB
OR	405 015 8704	TR 2SC2812-L6-TB
Q5916	405 015 8407	TR 2SC2812-L5-TB
OR	405 015 8704	TR 2SC2812-L6-TB
R5801	401 037 5400	MT-GLAZE 1K JA 1/10W
R5802	401 037 5608	MT-GLAZE 10K JA 1/10W
R5803	401 038 9001	MT-GLAZE 680 JA 1/10W
R5804	401 038 9001	MT-GLAZE 680 JA 1/10W
R5805	401 038 6406	MT-GLAZE 4.7K JA 1/10W
R5807	401 038 2309	MT-GLAZE 270K JA 1/10W
R5808	401 037 8104	MT-GLAZE 150K JA 1/10W
R5812	401 038 3603	MT-GLAZE 3.3K JA 1/10W
R5813	401 037 5608	MT-GLAZE 10K JA 1/10W
R5814	401 037 5400	MT-GLAZE 1K JA 1/10W
R5815	401 038 7304	MT-GLAZE 51K JA 1/10W

LOCATION	PARTS NO.	DESCRIPTION
R5816	401 038 3504	MT-GLAZE 330 JA 1/10W
R5817	401 038 7304	MT-GLAZE 51K JA 1/10W
R5818	401 037 8005	MT-GLAZE 15K JA 1/10W
R5819	401 038 7601	MT-GLAZE 560 JA 1/10W
R5820	401 038 4105	MT-GLAZE 3.6K JA 1/10W
R5821	401 038 5508	MT-GLAZE 4.7 JA 1/10W
R5822	401 037 6506	MT-GLAZE 12 JA 1/10W
R5824	401 037 6902	MT-GLAZE 120K JA 1/10W
R5825	401 038 2309	MT-GLAZE 270K JA 1/10W
R5826	401 038 2101	MT-GLAZE 2.7K JA 1/10W
R5831	401 038 3603	MT-GLAZE 3.3K JA 1/10W
R5835	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R5851	401 037 5400	MT-GLAZE 1K JA 1/10W
R5852	401 037 5608	MT-GLAZE 10K JA 1/10W
R5853	401 037 5400	MT-GLAZE 1K JA 1/10W
R5854	401 038 9001	MT-GLAZE 680 JA 1/10W
R5855	401 038 6406	MT-GLAZE 4.7K JA 1/10W
R5857	401 038 2309	MT-GLAZE 270K JA 1/10W
R5858	401 037 8104	MT-GLAZE 150K JA 1/10W
R5862	401 038 3603	MT-GLAZE 3.3K JA 1/10W
R5863	401 037 5608	MT-GLAZE 10K JA 1/10W
R5864	401 037 5400	MT-GLAZE 1K JA 1/10W
R5865	401 038 7304	MT-GLAZE 51K JA 1/10W
R5866	401 038 3504	MT-GLAZE 330 JA 1/10W
R5867	401 038 7304	MT-GLAZE 51K JA 1/10W
R5868	401 037 8005	MT-GLAZE 15K JA 1/10W
R5869	401 038 7601	MT-GLAZE 560 JA 1/10W
R5870	401 038 4105	MT-GLAZE 3.6K JA 1/10W
R5871	401 038 5508	MT-GLAZE 4.7 JA 1/10W
R5872	401 037 6506	MT-GLAZE 12 JA 1/10W
R5874	401 037 6902	MT-GLAZE 120K JA 1/10W
R5875	401 038 2309	MT-GLAZE 270K JA 1/10W
R5876	401 038 2101	MT-GLAZE 2.7K JA 1/10W
R5877	401 038 0503	MT-GLAZE 22 JA 1/10W
R5881	401 038 3603	MT-GLAZE 3.3K JA 1/10W
R5885	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R5901	401 038 2903	MT-GLAZE 300 JA 1/10W
R5906	401 087 2602	MT-FILM 1K FD 1/6W
R5911	401 037 5608	MT-GLAZE 10K JA 1/10W
R5912	401 038 8707	MT-GLAZE 62K JA 1/10W
R5913	401 037 6902	MT-GLAZE 120K JA 1/10W
R5914	401 038 3603	MT-GLAZE 3.3K JA 1/10W
R5915	401 037 5806	MT-GLAZE 1M JA 1/10W
R5916	401 038 5102	MT-GLAZE 3.9K JA 1/10W
R5917	401 038 6406	MT-GLAZE 4.7K JA 1/10W
R5918	401 037 9903	MT-GLAZE 20 JA 1/10W
R5919	401 038 3603	MT-GLAZE 3.3K JA 1/10W
R5920	401 038 3603	MT-GLAZE 3.3K JA 1/10W
R5921	401 037 5608	MT-GLAZE 10K JA 1/10W
R5922	401 037 5400	MT-GLAZE 1K JA 1/10W
R5923	401 038 0800	MT-GLAZE 22K JA 1/10W
SW591	613 101 1885	SW.SLIDE 2-2
VL581	613 101 0123	COIL.INDUCTOR 470U
VL582	613 101 0130	COIL.INDUCTOR 330U
VR581	613 001 9417	SEMI VR 10KB
VR582	613 001 9417	SEMI VR 10KB
VR591	613 001 9387	SEMI VR 2KB
VR592	613 101 0147	VR.ROTARY 10KAX2
VR593	613 101 0154	VR.ROTARY 50KAX2
VR594	613 001 9387	SEMI VR 2KB

COMPL.IR-3

COMPL.NO.	613 100 9332	(VHR-7810G ONLY)
C5951	403 010 1102	CERAMIC 1000P J 50V
C5952	403 010 1102	CERAMIC 1000P J 50V

LOCATION	PARTS NO.	DESCRIPTION
C5953	403 010 1102	CERAMIC 1000P J 50V
C5954	403 039 2708	ELECT 47U M 6.3V
C5957	403 039 2708	ELECT 47U M 6.3V
L5951	613 014 1019	COIL.INDUCTOR 220UHK
PD591	613 091 7515	ASSY.LENS
Q5951	405 015 8407	TR 2SC2812-L5-TB
OR	405 015 8704	TR 2SC2812-L6-TB
Q5952	405 002 6508	TR 2SA1179-M5-TB
OR	405 002 6706	TR 2SA1179-M6-TB
Q5953	405 015 8407	TR 2SC2812-L5-TB
OR	405 015 8704	TR 2SC2812-L6-TB
R5951	401 038 3702	MT-GLAZE 33K JA 1/10W
R5952	401 038 9308	MT-GLAZE 68K JA 1/10W
R5953	401 038 6505	MT-GLAZE 47K JA 1/10W
R5954	401 038 6505	MT-GLAZE 47K JA 1/10W
R5955	401 037 5608	MT-GLAZE 10K JA 1/10W

SANYO

SANYO Electric Co., Ltd.
Osaka, Japan

Jul./'90/1500 NS Printed in Japan

BLOCK DIAGRAMS, CIRCUIT DIAGRAMS & PRINTED CIRCUIT BOARDS

VHR-7800G (West Germany)
VHR-7810G (Switzerland etc.)

TABLE OF CONTENTS

Page

OVERALL WIRING DIAGRAM 1
MECHANISM CONNECTION CIRCUIT 3

VIDEO CIRCUIT BASIC BLOCK DIAGRAM 4

SYSTEM CONTROL & SERVO CIRCUIT BASIC BLOCK DIAGRAM 7

AUDIO CIRCUIT BASIC BLOCK DIAGRAM 10

CP-1 P.C.B. 13

CP-2 P.C.B. 15
PW-1 BOARD POWER SUPPLY CIRCUIT DIAGRAM & P.C.B. 17

CP-1 BOARD (PW-A) POWER SUPPLY CIRCUIT DIAGRAM 19
PW-1,2 BOARD POWER SUPPLY CIRCUIT DIAGRAM & P.C.B. 20

CP-1 BOARD (VD-A) VIDEO CRCUIT DIAGRAM 22
VD-1 BOARD PAL/SECAM DISCRIMINATION CIRCUIT DIAGRAM & P.C.B. 24

WAVEFORM OF VIDEO 25
TB-1 BOARD TERMINAL CIRCUIT DIAGRAM & P.C.B. 26
VP-2 BOARD (VP-B) VIDEO PRE-AMP CIRCUIT DIAGRAM & P.C.B. 26

CP-2 BOARD (SY-B) SYSTEM CONTROL CIRCUIT DIAGRAM 28
IC351 (LC7418) DIGITAL SERVO IC INTER BLOCK DIAGRAM 30

CP-2 BOARD (SV-B) SERVO CIRCUIT DIAGRAM 31
WAVEFORM OF SERVO 33

TM-1 BOARD DISPLAY, TIMER, SWITCH & TUNING CONTROL CIRCUIT DIAGRAM & P.C.B. 34
TM-2 BOARD SYSTEM SWITCH & TERMINAL CIRCUIT DIAGRAM & P.C.B. 34

CP-1 BOARD (TN-A) TUNER IF CONNECTION CIRCUIT DIAGRAM 37
CP-1 BOARD (CV-A) RF CONVERTER CONNECTION CIRCUIT DIAGRAM 37
TN-7 BOARD SYNC DET. CIRCUIT DIAGRAM & P.C.B. 38
TM-8 BOARD VPS CIRCUIT DIAGRAM & P.C.B. 38

VP-2 BOARD (AP-B) AUDIO PRE-AMP CIRCUIT DIAGRAM & P.C.B. 40
WAVEFORM OF AUDIO 42
AD-1 P.C.B. 42

CP-1 BOARD (AD-A) HIFI AUDIO CIRCUIT DIAGRAM 43
AD-A BOARD NORMAL AUDIO CIRCUIT DIAGRAM 43

IR-1 BOARD IR SOUND TRANSMITTER CIRCUIT DIAGRAM & P.C.B. 46
IR-2,3 BOARD IR SOUND RECEIVER CIRCUIT DIAGRAM & P.C.B. 46

IF CIRCUIT DIAGRAM & P.C.B. 49
RF CONVERTER CIRCUIT DIAGRAM 50

IC301 (μPD75516GF) SYSTEM CONTROL MPU PIN FUNCTIONS TABLE 52
IC351 (LC7418) DIGITAL SERVO IC PIN FUNCTIONS TABLE 53
IC711 (M50959) TIMER MPU PIN FUNCTIONS TABLE 54

IR REMOTE CONTROL CIRCUIT DIAGRAM 55

TUNER AUDIO STEREO DECODER CIRCUIT DIAGRAM & P.C.B. 57

LP3H/G, LP3HA/G 06H

REFERENCE NO. WM-530716

NOTES:

1. All resistance values in "OHMS" unless otherwise noted. (K = 1,000 M = 1,000,000)
2. All capacitance values in "μfd" unless otherwise noted. p = pico farad
3. All inductance values in "mH" unless otherwise noted. μ = micro henry.

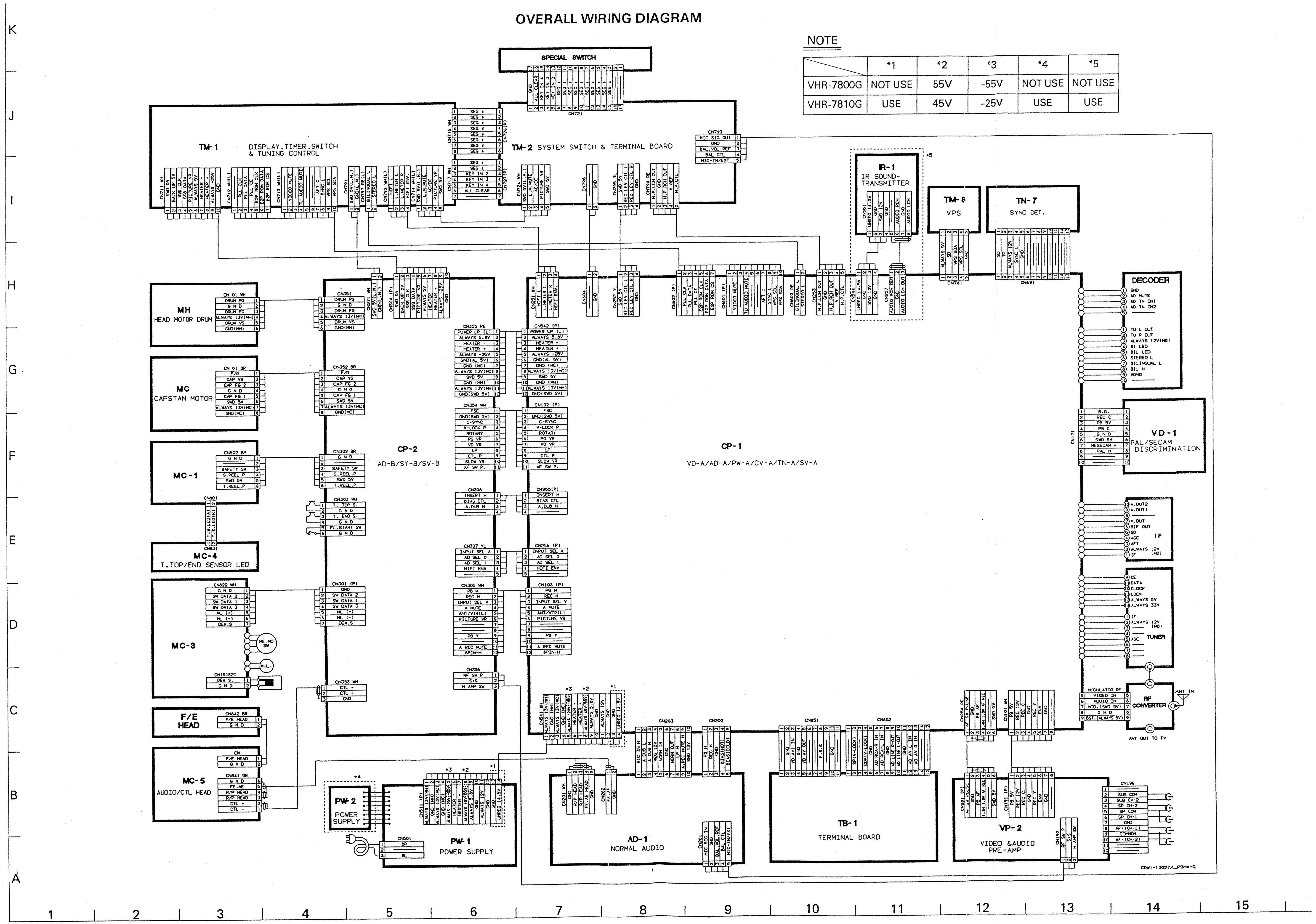
PRODUCT SAFETY NOTICE

THE COMPONENTS DESIGNATED BY A SYMBOL (⚠) IN THIS SCHEMATIC DIAGRAM DESIGNATES COMPONENTS WHOSE VALUE ARE OF SPECIAL SIGNIFICANCE TO PRODUCT SAFETY. SHOULD ANY COMPONENT DESIGNATED BY A SYMBOL NEED TO BE REPLACED, USE ONLY THE PART DESIGNATED IN THE PARTS LIST. DO NOT DEVIATE FROM THE RESISTNACE, WATTAGE AND VOLTAGE RATINGS SHOWN.

OVERALL WIRING DIAGRAM

NOTE

	*1	*2	*3	*4	*5
VHR-7800G	NOT USE	55V	-55V	NOT USE	NOT USE
VHR-7810G	USE	45V	-25V	USE	USE


SPECIAL SWITCH
CN721
TM-1 DISPLAY, TIMER, SWITCH & TUNING CONTROL
TM-2 SYSTEM SWITCH & TERMINAL BOARD
CN793
MIC SIG OUT
GND
BAL.VOL.REF
BAL CTL
MIC-IN/EXT
IR-1 IR SOUND-TRANSMITTER
*5
TM-8 VPS
TN-7 SYNC DET.
CN781
CN691
MH HEAD MOTOR DRUM
MC CAPSTAN MOTOR
MC-1
MC-4 T.TOP/END SENSOR LED
MC-3
F/E HEAD
MC-5 AUDIO/CTL HEAD
PW-2 POWER SUPPLY
*4
PW-1 POWER SUPPLY
CN501
CN511
CP-2 AD-B/SY-B/SV-B
CP-1 VD-A/AD-A/PW-A/CV-A/TN-A/SV-A
CN351
CN352
CN302
CN303
CN301
CN353
CN355
CN354
CN306
CN307
CN305
CN356
CN542
CN102
CN255
CN256
CN103
CN541
CN203
CN202
CN651
CN652
CN254
CN101
CN171
DECODER
VD-1 PAL/SECAM DISCRIMINATION
IF
TUNER
RF CONVERTER
ANT IN
ANT OUT TO TV
AD-1 NORMAL AUDIO
CN201
CN262
CN261
TB-1 TERMINAL BOARD
VP-2 VIDEO & AUDIO PRE-AMP
CN281
CN191
CN192
CN196
*1
*2
*3
CDW1-13027/L_P3HA-G
K
J
I
H
G
F
E
D
C
B
A
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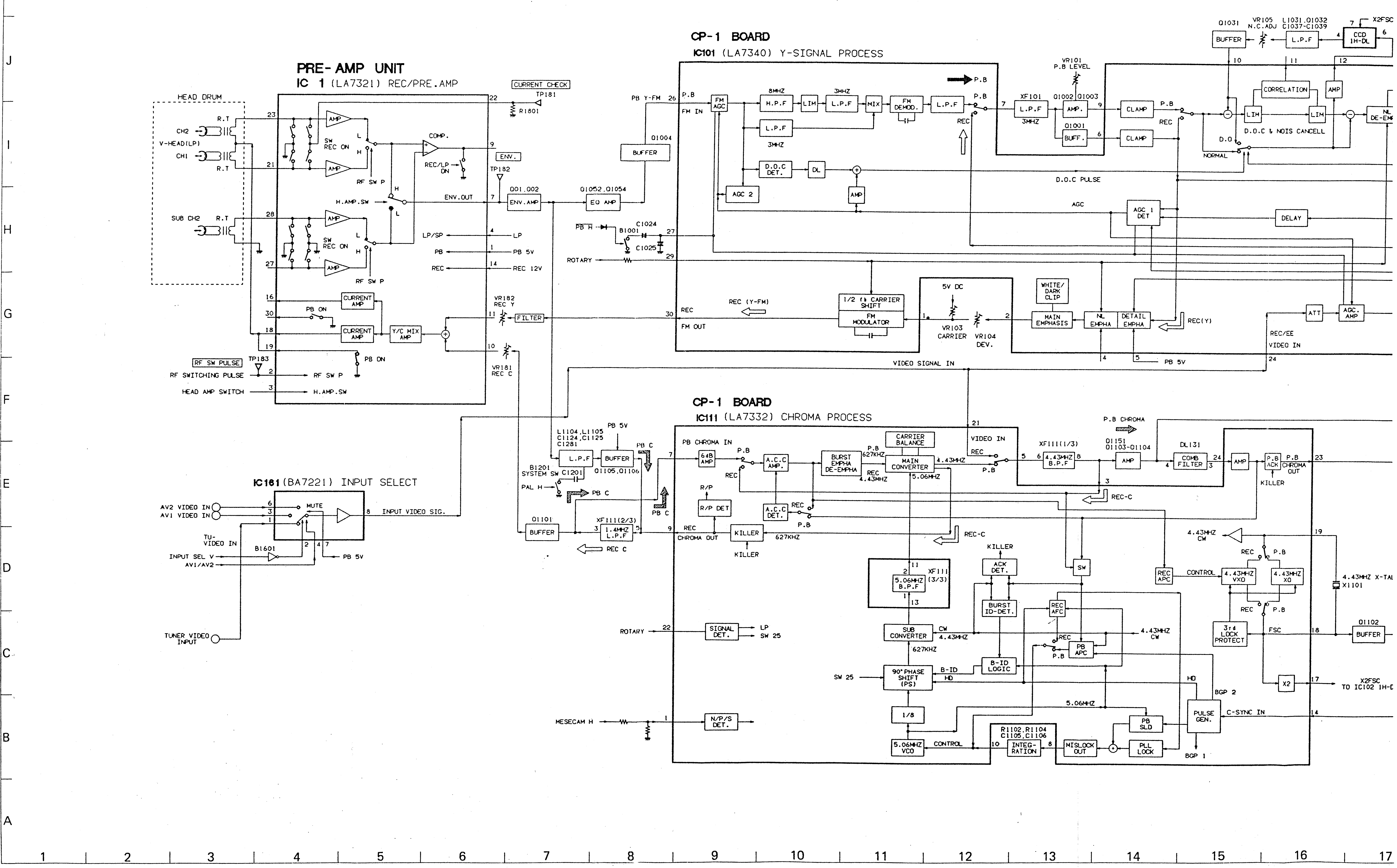
VIDEO CIRCUIT BASIC BLOCK DIAGRAM


PRE-AMP UNIT
IC 1 (LA7321) REC/PRE.AMP
HEAD DRUM
CH2
V-HEAD(LP)
CH1
R.T
SUB CH2
AMP
SW REC ON
COMP.
RF SW P
REC/LP ON
H.AMP.SW
ENV.OUT
LP/SP
PB
REC
CURRENT AMP
PB ON
Y/C MIX AMP
CURRENT CHECK
TP181
R1801
ENV.
TP182
TP183
LP
PB 5V
REC 12V
VR182 REC Y
VR181 REC C
FILTER
RF SW PULSE
RF SWITCHING PULSE
HEAD AMP SWITCH
RF SW P
H.AMP.SW
Q01.Q02
ENV.AMP
Q1052,Q1054
EQ AMP
Q1004
BUFFER
PB Y-FM
PB H
B1001
C1024
C1025
ROTARY
CP-1 BOARD
IC101 (LA7340) Y-SIGNAL PROCESS
P.B
FM IN
FM AGC
8MHZ
H.P.F
LIM
3MHZ
L.P.F
MIX
FM DEMOD.
D.O.C DET.
DL
AGC 2
AMP
REC (Y-FM)
1/2 fh CARRIER SHIFT
FM MODULATOR
FM OUT
5V DC
VR103 CARRIER
VR104 DEV.
WHITE/DARK CLIP
MAIN EMPHASIS
NL EMPHA
DETAIL EMPHA
REC(Y)
XF101
L.P.F
3MHZ
VR101 P.B LEVEL
Q1002 Q1003
AMP.
Q1001
BUFF.
CLAMP
D.O.C PULSE
AGC
AGC 1 DET
DELAY
Q1031
BUFFER
VR105 N.C.ADJ
L1031,Q1032 C1037-C1039
CCD 1H-DL
X2FSC
CORRELATION
LIM
D.O.C & NOIS CANCELL
D.O
NORMAL
NL DE-EM
ATT
AGC. AMP
REC/EE VIDEO IN
PB 5V
VIDEO SIGNAL IN
IC161 (BA7221) INPUT SELECT
AV2 VIDEO IN
AV1 VIDEO IN
TU-VIDEO IN
MUTE
INPUT VIDEO SIG.
B1601
INPUT SEL V
AV1/AV2
TUNER VIDEO INPUT
L1104,L1105 C1124,C1125 C1281
B1201 SYSTEM SW
C1201
PAL H
PB C
Q1105,Q1106
Q1101
BUFFER
XF111(2/3) 1.4MHZ L.P.F
REC C
CP-1 BOARD
IC111 (LA7332) CHROMA PROCESS
PB CHROMA IN
64B AMP
A.C.C AMP.
A.C.C DET.
BURST EMPHA DE-EMPHA
627KHZ
CARRIER BALANCE
MAIN CONVERTER
4.43MHZ
5.06MHZ
R/P
R/P DET
KILLER
CHROMA OUT
REC-C
VIDEO IN
XF111(1/3) 4.43MHZ B.P.F
Q1151 Q1103-Q1104
P.B CHROMA
DL131 COMB FILTER
P.B ACK
CHROMA OUT
XF111 (3/3) 5.06MHZ B.P.F
ACK DET.
BURST ID-DET.
SW
REC APC
REC AFC
PB APC
CONTROL
4.43MHZ VXO
4.43MHZ XO
4.43MHZ CW
3rd LOCK PROTECT
FSC
4.43MHZ X-TAL X1101
Q1102 BUFFER
X2
X2FSC TO IC102 1H-DL
SUB CONVERTER
CW
90° PHASE SHIFT (PS)
B-ID
HD
B-ID LOGIC
1/8
5.06MHZ VCO
R1102,R1104 C1105,C1106
INTEG-RATION
MISLOCK OUT
PB SLD
PLL LOCK
PULSE GEN.
BGP 2
BGP 1
C-SYNC IN
SIGNAL DET.
SW 25
MESECAM H
N/P/S DET.
K
J
I
H
G
F
E
D
C
B
A
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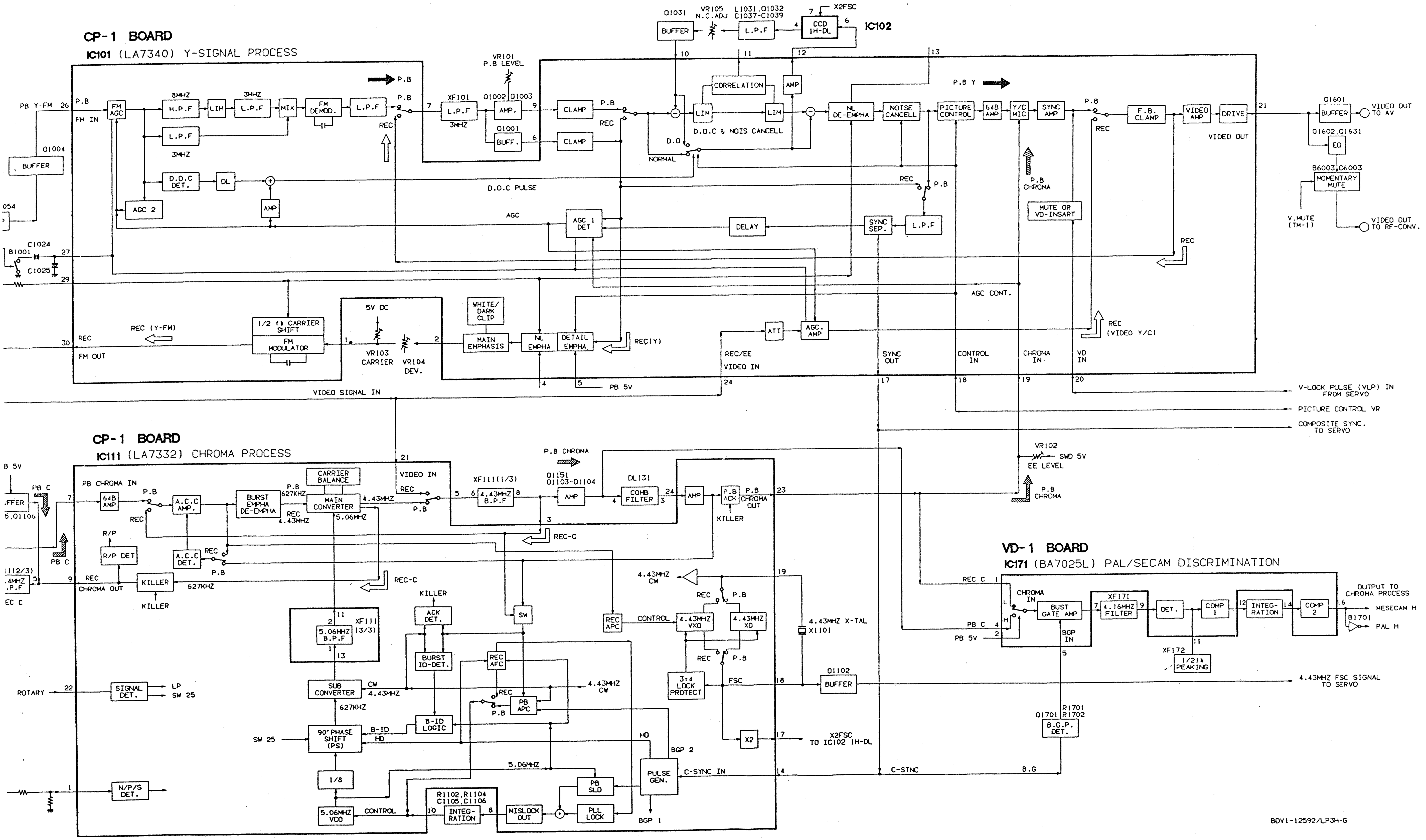
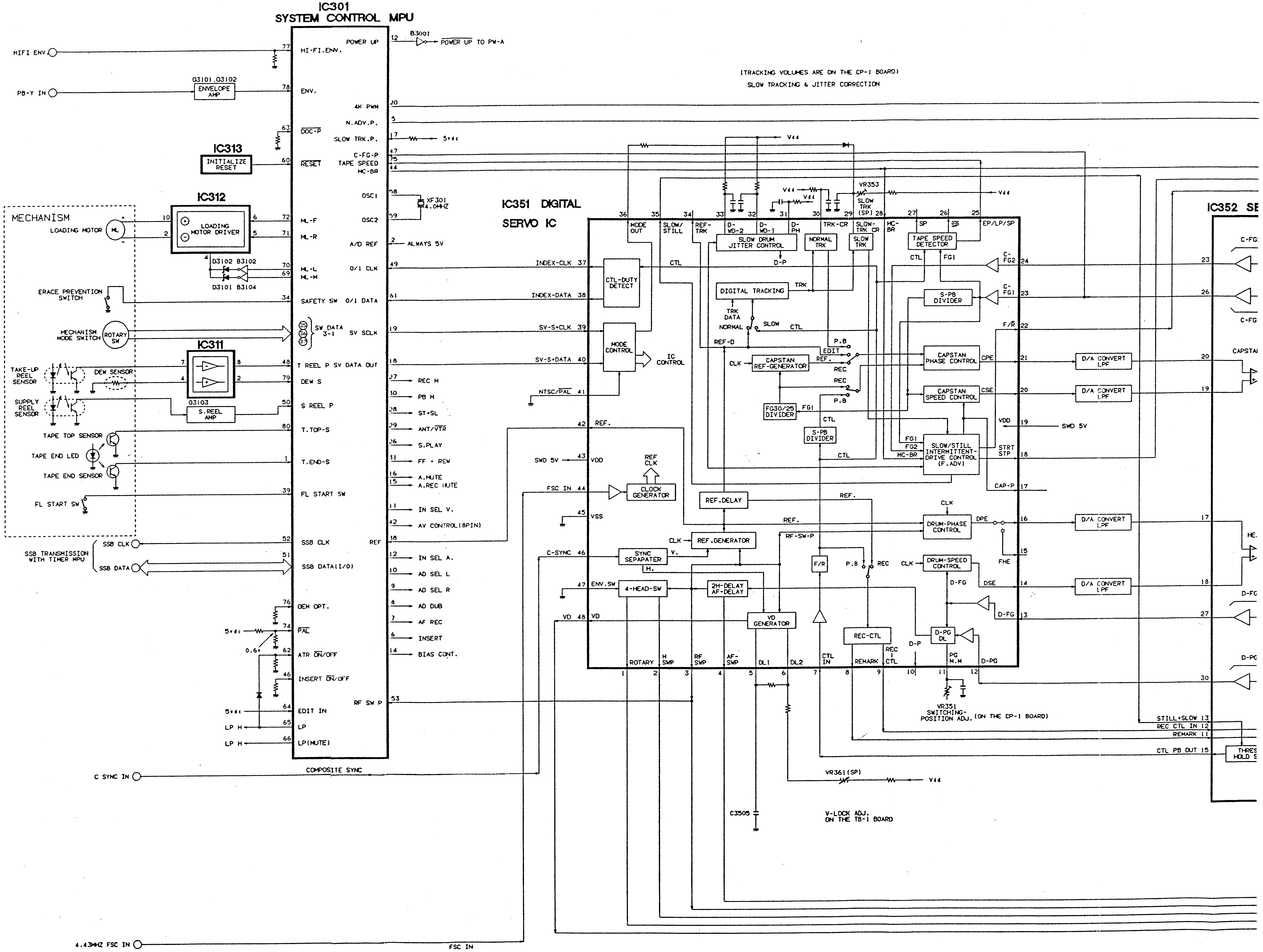
VIDEO CIRCUIT BASIC BLOCK DIAGRAM

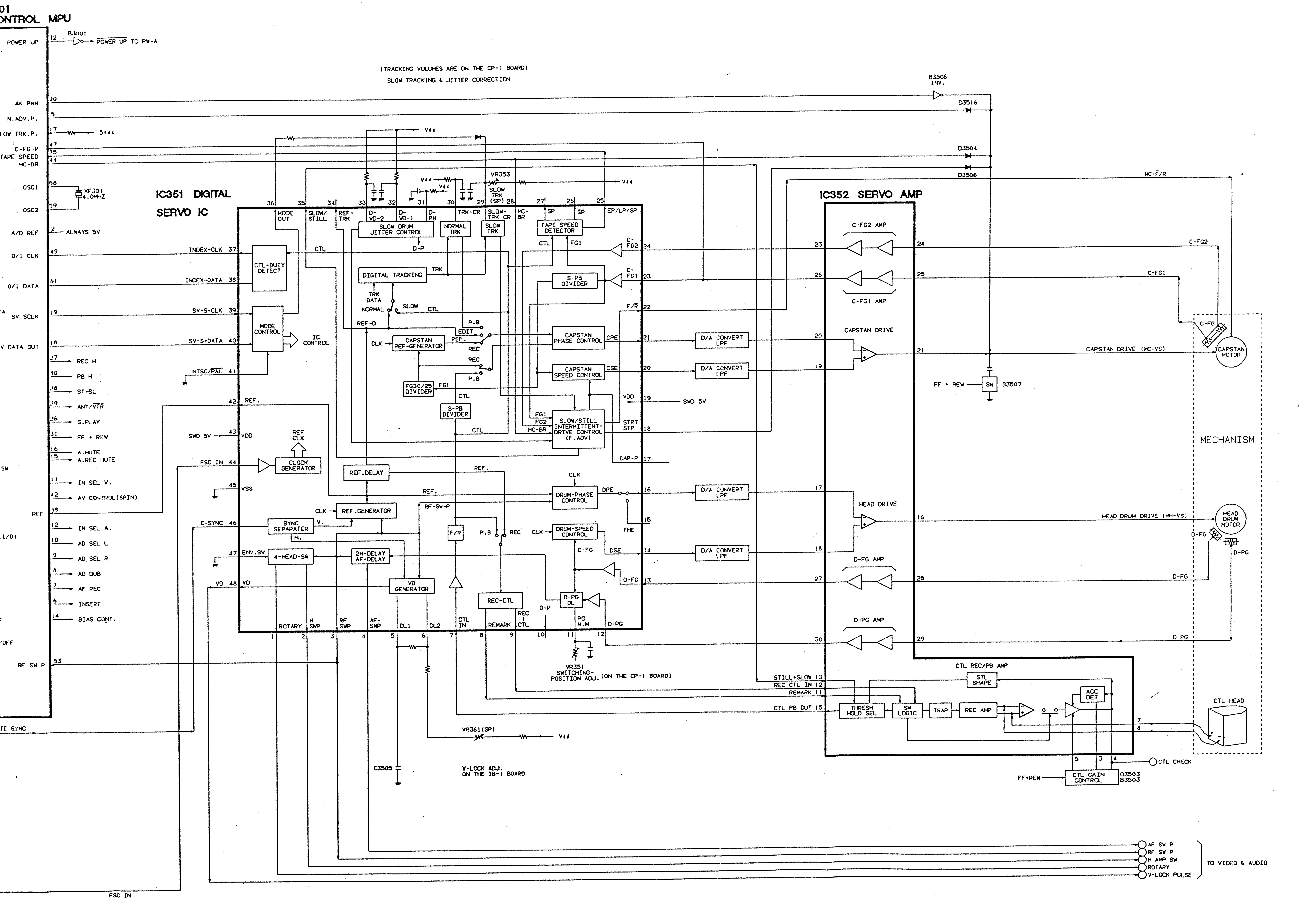

CP-1 BOARD
IC101 (LA7340) Y-SIGNAL PROCESS
PB Y-FM
FM IN
FM AGC
8MHZ
H.P.F
LIM
3MHZ
L.P.F
MIX
FM DEMOD.
L.P.F
P.B
REC
XF101
L.P.F
3MHZ
Q1002 Q1003
AMP.
Q1001
BUFF.
CLAMP
VR101
P.B LEVEL
Q1031
BUFFER
VR105
N.C.ADJ
L1031,Q1032
C1037-C1039
CCD
1H-DL
X2FSC
IC102
CORRELATION
AMP
LIM
D.O.C & NOIS CANCELL
D.O
NORMAL
NL DE-EMPHA
NOISE CANCELL
PICTURE CONTROL
6dB AMP
Y/C MIC
SYNC AMP
P.B Y
F.B. CLAMP
VIDEO AMP
DRIVE
VIDEO OUT
Q1601
BUFFER
VIDEO OUT TO AV
Q1602,Q1631
EQ
B6003,Q6003
MOMENTARY MUTE
V.MUTE (TM-1)
VIDEO OUT TO RF-CONV.
Q1004
BUFFER
D.O.C DET.
DL
AMP
AGC 2
D.O.C PULSE
AGC
AGC 1 DET
DELAY
SYNC SEP.
L.P.F
P.B CHROMA
MUTE OR VD-INSART
C1024
B1001
C1025
REC (Y-FM)
1/2 fH CARRIER SHIFT
FM MODULATOR
FM OUT
5V DC
VR103 CARRIER
VR104 DEV.
WHITE/DARK CLIP
MAIN EMPHASIS
NL EMPHA
DETAIL EMPHA
REC(Y)
AGC CONT.
ATT
AGC. AMP
REC (VIDEO Y/C)
REC/EE VIDEO IN
SYNC OUT
CONTROL IN
CHROMA IN
VD IN
PB 5V
VIDEO SIGNAL IN
V-LOCK PULSE (VLP) IN FROM SERVO
PICTURE CONTROL VR
COMPOSITE SYNC. TO SERVO
CP-1 BOARD
IC111 (LA7332) CHROMA PROCESS
PB CHROMA IN
6dB AMP
A.C.C AMP.
BURST EMPHA DE-EMPHA
CARRIER BALANCE
MAIN CONVERTER
627KHZ
4.43MHZ
5.06MHZ
VIDEO IN
XF111(1/3)
4.43MHZ B.P.F
Q1151
Q1103-Q1104
AMP
P.B CHROMA
DL131
COMB FILTER
AMP
P.B ACK
P.B CHROMA OUT
KILLER
VR102
SWD 5V
EE LEVEL
R/P
R/P DET
A.C.C DET.
REC-C
KILLER
REC CHROMA OUT
627KHZ
XF111 (3/3)
5.06MHZ B.P.F
ACK DET.
SW
REC APC
CONTROL
4.43MHZ VXO
4.43MHZ XO
4.43MHZ CW
4.43MHZ X-TAL X1101
BURST ID-DET.
REC AFC
SUB CONVERTER
CW
PB APC
3rd LOCK PROTECT
FSC
Q1102
BUFFER
4.43MHZ FSC SIGNAL TO SERVO
ROTARY
SIGNAL DET.
LP
SW 25
90° PHASE SHIFT (PS)
B-ID
HD
B-ID LOGIC
X2
X2FSC TO IC102 1H-DL
1/8
5.06MHZ
PULSE GEN.
BGP 2
C-SYNC IN
C-STNC
B.G
N/P/S DET.
5.06MHZ VCO
R1102,R1104
C1105,C1106
INTEG-RATION
MISLOCK OUT
PB SLD
PLL LOCK
BGP 1
VD-1 BOARD
IC171 (BA7025L) PAL/SECAM DISCRIMINATION
REC C
CHROMA IN
BUST GATE AMP
PB C
PB 5V
BGP IN
XF171
4.16MHZ FILTER
DET.
COMP 1
INTEG-RATION
COMP 2
OUTPUT TO CHROMA PROCESS
MESECAM H
B1701
PAL H
XF172
1/2fH PEAKING
Q1701
R1701
R1702
B.G.P. DET.

BDV1-12592/LP3H-G

SYSTEM CONTROL & SERVO CIRCUIT BASIC BLOCK DIAGRAM

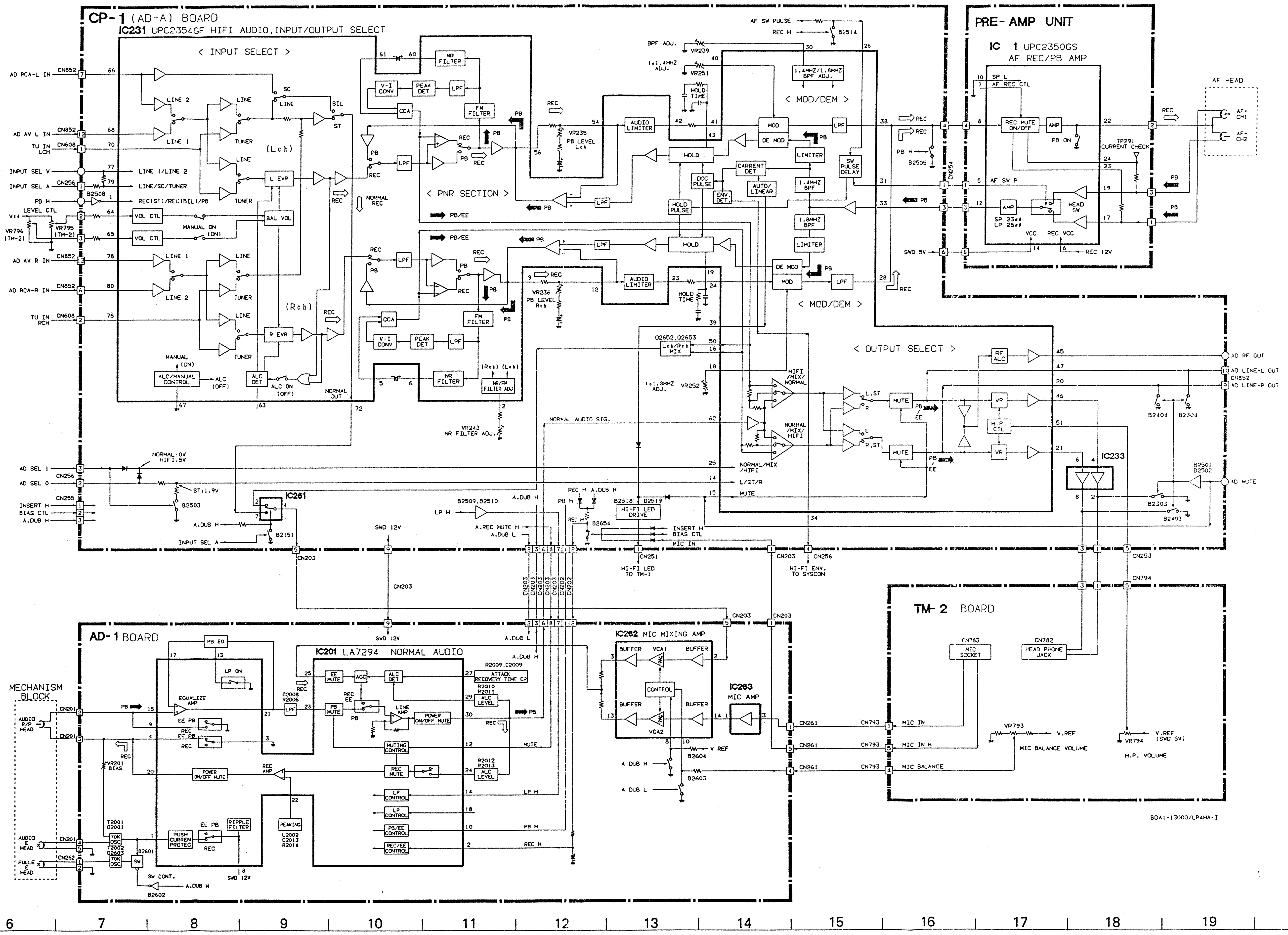

IC301
SYSTEM CONTROL MPU
HIFI ENV.
PB-Y IN
Q3101,Q3102
ENVELOPE AMP
IC313
INITIALIZE RESET
IC312
LOADING MOTOR DRIVER
MECHANISM
LOADING MOTOR
ML
D3102 B3102
D3101 B3104
ERACE PREVENTION SWITCH
MECHANISM MODE SWITCH
ROTARY SW
IC311
TAKE-UP REEL SENSOR
DEW SENSOR
SUPPLY REEL SENSOR
Q3103
S.REEL AMP
TAPE TOP SENSOR
TAPE END LED
TAPE END SENSOR
FL START SW
SS8 TRANSMISSION WITH TIMER MPU
SS8 CLK
SS8 DATA
HI-FI.ENV.
ENV.
DOC-P
RESET
ML-F
ML-R
ML-L
ML-H
SAFETY SW
SW DATA 3-1
T REEL P
DEW S
S REEL P
T.TOP-S
T.END-S
FL START SW
SS8 CLK
SS8 DATA(I/O)
OEM OPT.
PAL
ATR ON/OFF
INSERT ON/OFF
EDIT IN
LP
LP(MUTE)
5Vdc
0.6V
LP H
POWER UP
4K PWM
N.ADV.P.
SLOW TRK.P.
C-FG-P
TAPE SPEED
MC-BR
OSC1
OSC2
A/D REF
0/1 CLK
0/1 DATA
SV SCLK
SV DATA OUT
REF
RF SW P
B3001
POWER UP TO PW-A
XF301 4.0MHZ
ALWAYS 5V
REC H
PB H
ST+SL
ANT/VTR
S.PLAY
FF + REW
A.MUTE
A.REC MUTE
IN SEL V.
AV CONTROL(8PIN)
IN SEL A.
AD SEL L
AD SEL R
AD DUB
AF REC
INSERT
BIAS CONT.
C SYNC IN
COMPOSITE SYNC
4.43MHZ FSC IN
FSC IN
(TRACKING VOLUMES ARE ON THE CP-1 BOARD)
SLOW TRACKING & JITTER CORRECTION
IC351 DIGITAL SERVO IC
Vdd
VR353
SLOW TRK (SP)
MODE OUT
SLOW/STILL
REF-TRK
D-WD-2
D-WD-1
D-PH
TRK-CR
SLOW-TRK CR
MC-BR
SP
EP/LP/SP
SLOW DRUM JITTER CONTROL
NORMAL TRK
SLOW TRK
TAPE SPEED DETECTOR
INDEX-CLK
INDEX-DATA
SV-S-CLK
SV-S-DATA
NTSC/PAL
CTL-DUTY DETECT
MODE CONTROL
IC CONTROL
DIGITAL TRACKING
TRK DATA
NORMAL
SLOW
REF-D
EDIT
REF.
CLK
CAPSTAN REF-GENERATOR
REC
P.B
FG30/25 DIVIDER
S-PB DIVIDER
CTL
FG1
C-FG2
C-FG1
S-PB DIVIDER
F/R
CAPSTAN PHASE CONTROL
CPE
CAPSTAN SPEED CONTROL
CSE
VDD
SWD 5V
SLOW/STILL INTERMITTENT-DRIVE CONTROL (F.ADV)
FG2
STRT STP
CAP-P
REF CLK
CLOCK GENERATOR
FSC IN
VSS
REF.DELAY
REF.GENERATOR
DRUM-PHASE CONTROL
DPE
RF-SW-P
C-SYNC
SYNC SEPAPATER
V.
H.
F/R
DRUM-SPEED CONTROL
FHE
ENV.SW
4-HEAD-SW
2H-DELAY AF-DELAY
D-FG
DSE
VD
VD GENERATOR
REC-CTL
D-P
D-PG DL
ROTARY
H SWP
RF SWP
AF-SWP
DL1
DL2
CTL IN
REMARK
REC CTL
PG M.M
D-PG
VR351 SWITCHING-POSITION ADJ.
(ON THE CP-1 BOARD)
VR361(SP)
V-LOCK ADJ. ON THE TB-1 BOARD
C3505
D/A CONVERT LPF
IC352 SE
C-FG
CAPSTA
HE
D-FG
D-PG
STILL+SLOW
REC CTL IN
REMARK
CTL PB OUT
THRES HOLD S

SYSTEM CONTROL & SERVO CIRCUIT BASIC BLOCK DIAGRAM

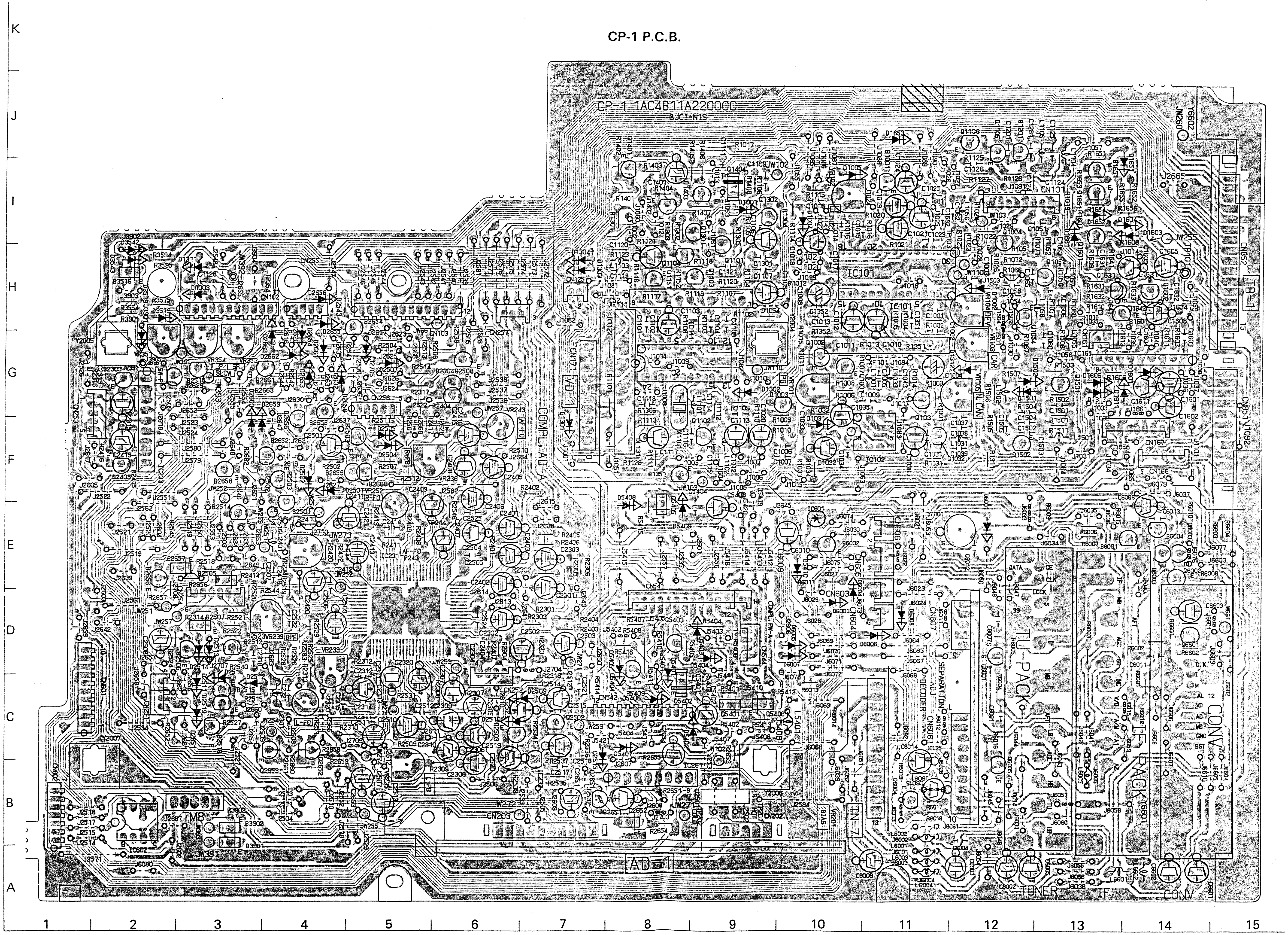


01
ONTROL MPU
POWER UP
B3001
POWER UP TO PW-A
(TRACKING VOLUMES ARE ON THE CP-1 BOARD)
SLOW TRACKING & JITTER CORRECTION
B3506 INV.
D3516
D3504
D3506
4K PWM
N.ADV.P.
LOW TRK.P.
C-FG-P
TAPE SPEED
MC-BR
OSC1
OSC2
XF301 4.0MHZ
A/D REF
ALWAYS 5V
0/1 CLK
0/1 DATA
SV SCLK
V DATA OUT
REC H
PB H
ST+SL
ANT/VTR
S.PLAY
FF + REW
A.MUTE
A.REC MUTE
IN SEL V.
AV CONTROL(8PIN)
REF
IN SEL A.
AD SEL L
AD SEL R
AD DUB
AF REC
INSERT
BIAS CONT.
RF SW P
TE SYNC
FSC IN
IC351 DIGITAL
SERVO IC
V44
VR353
SLOW TRK (SP)
MODE OUT
SLOW/STILL
REF-TRK
D-WD-2
D-WD-1
D-PH
TRK-CR
SLOW-TRK CR
MC-BR
SP
EP/LP/SP
SLOW DRUM JITTER CONTROL
NORMAL TRK
SLOW TRK
TAPE SPEED DETECTOR
CTL-DUTY DETECT
INDEX-CLK
INDEX-DATA
SV-S-CLK
SV-S-DATA
NTSC/PAL
MODE CONTROL
IC CONTROL
DIGITAL TRACKING
TRK DATA
NORMAL
SLOW
REF-D
CAPSTAN REF-GENERATOR
EDIT
P.B
REC
FG30/25 DIVIDER
S-PB DIVIDER
CAPSTAN PHASE CONTROL
CAPSTAN SPEED CONTROL
CPE
CSE
C-FG2
C-FG1
F/R
VDD
STRT STP
CAP-P
SLOW/STILL INTERMITTENT-DRIVE CONTROL (F.ADV)
FG1
FG2
SWD 5V
REF CLK
CLOCK GENERATOR
FSC IN
VSS
REF.DELAY
REF.GENERATOR
SYNC SEPAPATER
C-SYNC
ENV.SW
4-HEAD-SW
2H-DELAY AF-DELAY
VD GENERATOR
F/R
RF-SW-P
DRUM-PHASE CONTROL
DRUM-SPEED CONTROL
DPE
DSE
FHE
D-FG
D-PG DL
D-PG
REC-CTL
D-P
ROTARY
H SWP
RF SWP
AF-SWP
DL1
DL2
CTL IN
REMARK
REC I CTL
PG M.M
VR351 SWITCHING-POSITION ADJ. (ON THE CP-1 BOARD)
VR361(SP)
V-LOCK ADJ. ON THE TB-1 BOARD
C3505
D/A CONVERT LPF
IC352 SERVO AMP
C-FG2 AMP
C-FG1 AMP
CAPSTAN DRIVE
HEAD DRIVE
D-FG AMP
D-PG AMP
MC-F/R
CAPSTAN DRIVE (MC-VS)
HEAD DRUM DRIVE (MH-VS)
FF + REW
SW
B3507
MECHANISM
C-FG
CAPSTAN MOTOR
HEAD DRUM MOTOR
CTL HEAD
CTL REC/PB AMP
STL SHAPE
STILL+SLOW
REC CTL IN
REMARK
CTL PB OUT
THRESH HOLD SEL
SW LOGIC
TRAP
REC AMP
AGC DET
CTL CHECK
CTL GAIN CONTROL
Q3503
B3503
AF SW P
RF SW P
H AMP SW
ROTARY
V-LOCK PULSE
TO VIDEO & AUDIO

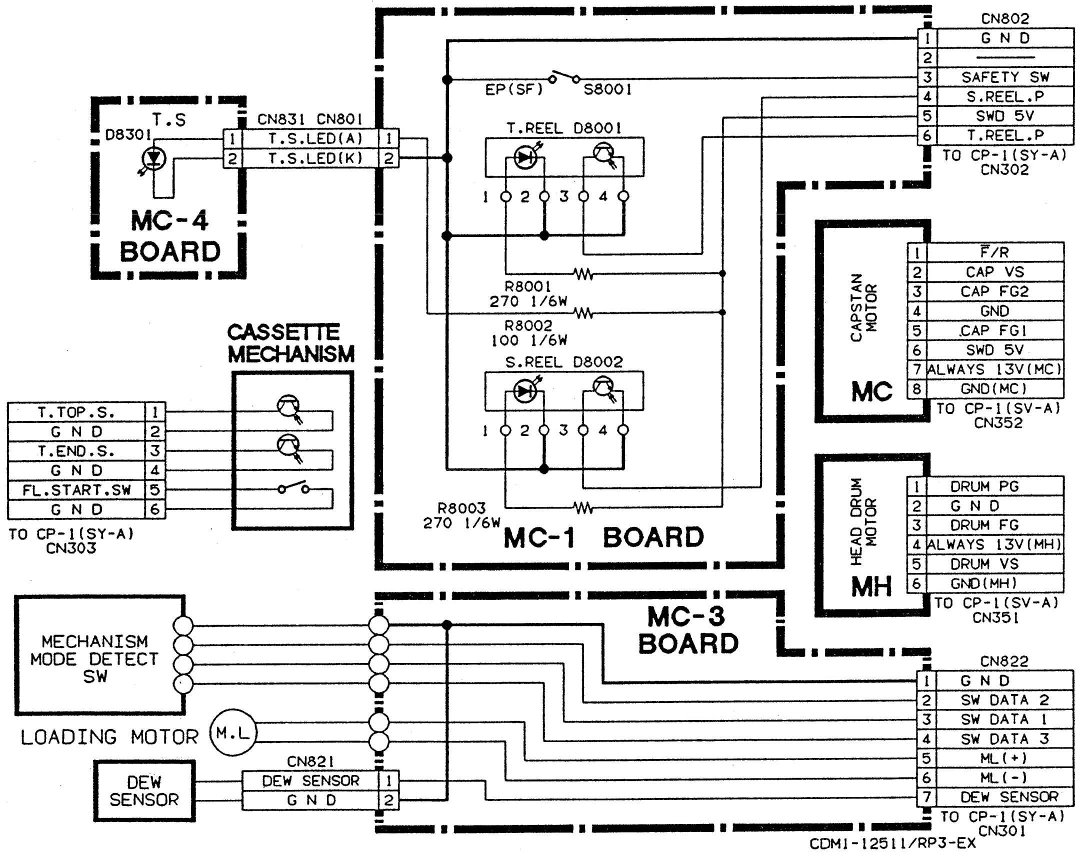
HIFI AUDIO & NORMAL AUDIO CIRCUIT BASIC BLOCK DIAGRAM


CP-1 (AD-A) BOARD
IC231 UPC2354GF HIFI AUDIO, INPUT/OUTPUT SELECT
< INPUT SELECT >
(Lch)
(Rch)
L EVR
R EVR
BAL VOL
VOL CTL
ALC/MANUAL CONTROL
ALC DET
< PNR SECTION >
V-I CONV
PEAK DET
LPF
CCA
NR FILTER
FM FILTER
NR/FM FILTER ADJ
VR243 NR FILTER ADJ.
AUDIO LIMITER
VR235 PB LEVEL Lch
VR236 PB LEVEL Rch
BPF ADJ.
VR239
VR251
HOLD TIME
1.4MHZ/1.8MHZ BPF ADJ.
< MOD/DEM >
MOD
DE MOD
HOLD
HOLD PULSE
DOC PULSE
CARRENT DET
ENV. DET.
AUTO/LINEAR
LIMITER
1.4MHZ BPF
1.8MHZ BPF
SW PULSE DELAY
AF SW PULSE
REC H
B2514
Q2652, Q2653 Lch/Rch MIX
VR252
< OUTPUT SELECT >
HIFI /MIX/ NORMAL
NORMAL /MIX/ HIFI
MUTE
RF ALC
VR
H.P. CTL
IC233
IC261
NORMAL AUDIO SIG.
NORMAL/MIX /HIFI
L/ST/R
HI-FI LED DRIVE
INSERT H
BIAS CTL
MIC IN
AD RCA-L IN
AD AV L IN
TU IN LCH
INPUT SEL V
INPUT SEL A
PB H
LEVEL CTL
VR796 (TM-2)
VR795 (TM-2)
AD AV R IN
AD RCA-R IN
TU IN RCH
AD SEL 1
AD SEL 0
INSERT H
BIAS CTL
A.DUB H
CN852
CN608
CN256
CN255
CN203
CN251
CN253
HI-FI LED TO TM-1
HI-FI ENV. TO SYSCON
AD RF OUT
AD LINE-L OUT
AD LINE-R OUT
AD MUTE
B2404
B2304
B2303
B2403
B2501
B2502
PRE-AMP UNIT
IC 1 UPC2350GS AF REC/PB AMP
REC MUTE ON/OFF
AMP
AF SW P
HEAD SW
SP L
AF REC CTL
PB ON
TP291 CURRENT CHECK
SP 23dB
LP 28dB
VCC
REC VCC
REC 12V
SWD 5V
AF HEAD
AF-CH1
AF-CH2
CN294
B2505
AD-1 BOARD
IC201 LA7294 NORMAL AUDIO
PB EQ
LP ON
EQUALIZE AMP
EE PB
POWER ON/OFF MUTE
EE MUTE
AGC
ALC DET
PB MUTE
LINE AMP
MUTING CONTROL
REC MUTE
REC AMP
PEAKING
LP CONTROL
PB/EE CONTROL
REC/EE CONTROL
ATTACK RECOVERY TIME CP
ALC LEVEL
PUSH CURREN PROTEC
RIPPLE FILTER
70K OSC
SW
SW CONT.
B2601
B2602
MECHANISM BLOCK
AUDIO R/P HEAD
AUDIO E HEAD
FULLE E HEAD
CN201
CN262
VR201 BIAS
SWD 12V
IC262 MIC MIXING AMP
BUFFER
VCA1
VCA2
CONTROL
IC263 MIC AMP
V REF
B2604
B2603
A DUB H
A DUB L
CN261
TM-2 BOARD
CN783 MIC SOCKET
CN782 HEAD PHONE JACK
CN793
CN794
MIC IN
MIC IN H
MIC BALANCE
VR793
V.REF
MIC BALANCE VOLUME
VR794
V.REF (SWD 5V)
H.P. VOLUME
BDA1-13000/LP4HA-I
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

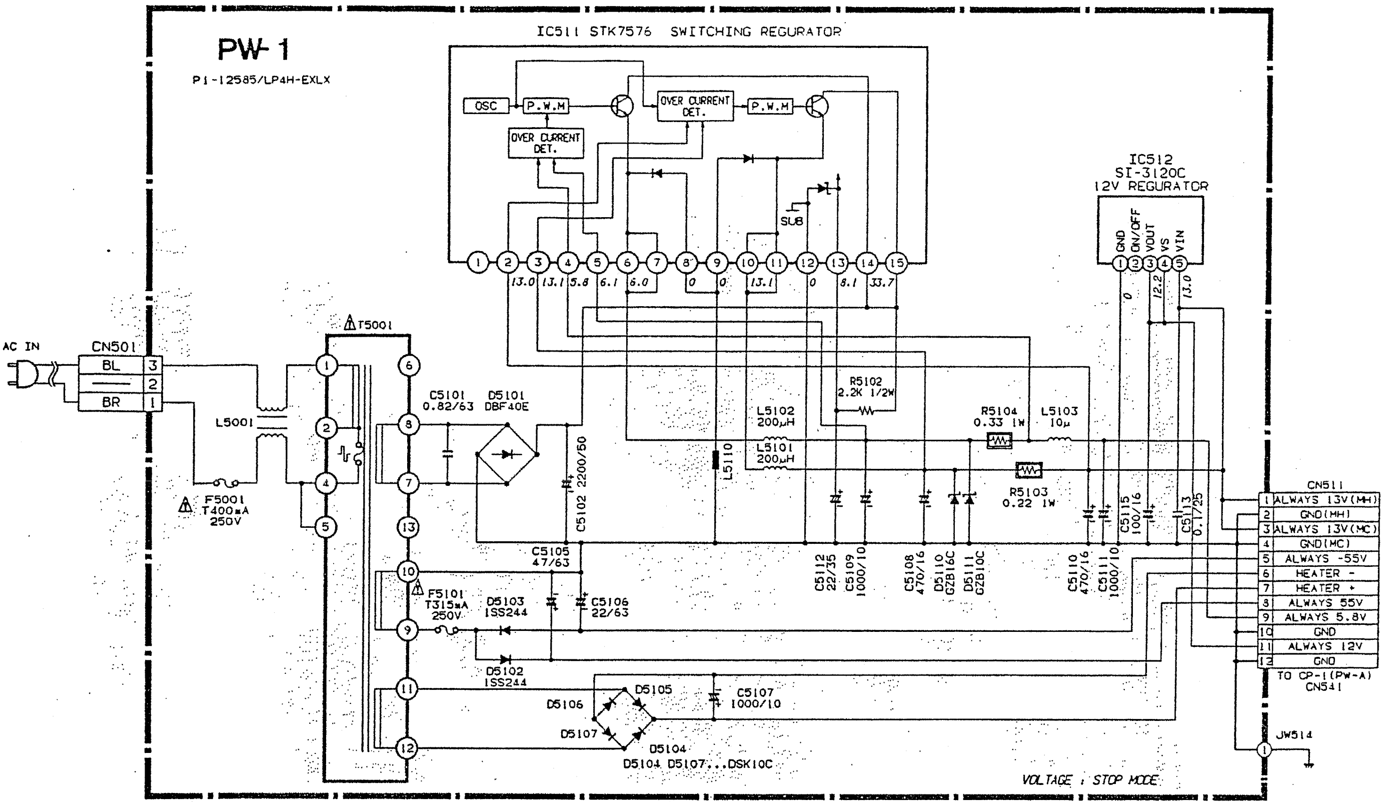
CP-1 P.C.B.


K
J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
CP-1 1AC4B11A22000C
0JCI-N1S
IC101
IC102
TB-1
CN852
CN651
VD-1
COMPL.AD-A
COMPL.PM-A
AD-1
IN-7
BIAS
SEPARATION ADJ
DECODER
TU-PACK
IF PACK
CONV
TUNER
IF
CN203
CN202
JW391
JW272
IC602
Y2005
Y2007
Y6602
JW2601
CAR
DEV
AF-FO
R-FO

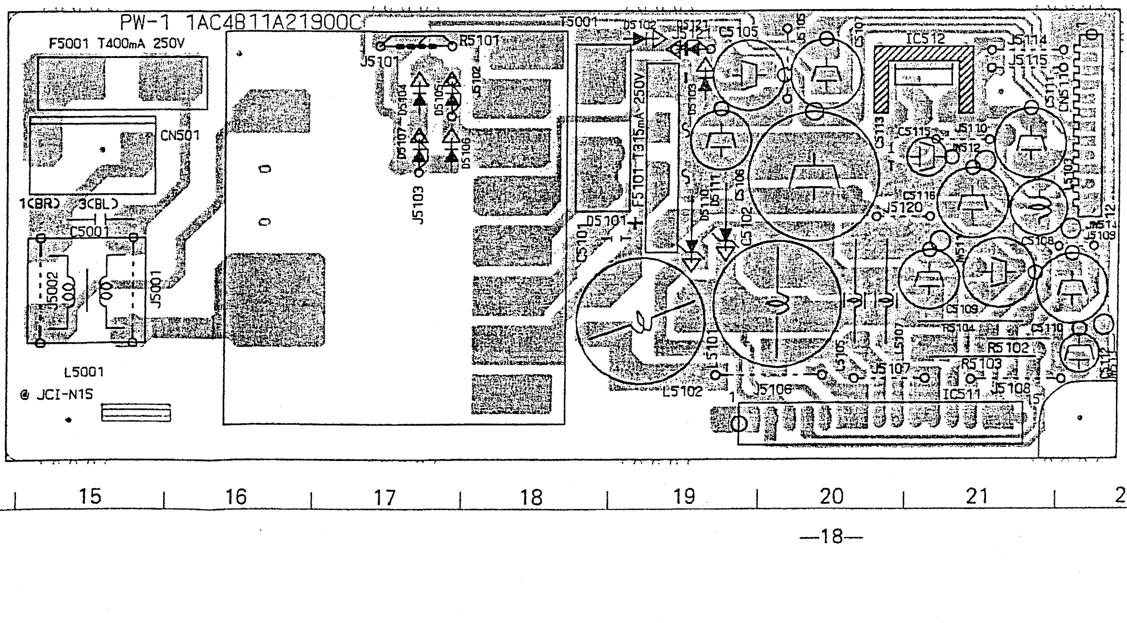
MECHANISM CONNECTION CIRCUIT


T.S
D8301
MC-4
BOARD
CN831 CN801
1 T.S.LED(A) 1
2 T.S.LED(K) 2
EP(SF)
S8001
T.REEL D8001
1 2 3 4
R8001
270 1/6W
R8002
100 1/6W
S.REEL D8002
1 2 3 4
R8003
270 1/6W
MC-1 BOARD
CN802
1 GND
2 ———
3 SAFETY SW
4 S.REEL.P
5 SWD 5V
6 T.REEL.P
TO CP-1(SY-A)
CN302
CASSETTE
MECHANISM
1 T.TOP.S.
2 GND
3 T.END.S.
4 GND
5 FL.START.SW
6 GND
TO CP-1(SY-A)
CN303
CAPSTAN
MOTOR
MC
1 F/R
2 CAP VS
3 CAP FG2
4 GND
5 CAP FG1
6 SWD 5V
7 ALWAYS 13V(MC)
8 GND(MC)
TO CP-1(SV-A)
CN352
HEAD DRUM
MOTOR
MH
1 DRUM PG
2 GND
3 DRUM FG
4 ALWAYS 13V(MH)
5 DRUM VS
6 GND(MH)
TO CP-1(SV-A)
CN351
MECHANISM
MODE DETECT
SW
LOADING MOTOR
M.L
MC-3
BOARD
DEW
SENSOR
CN821
1 DEW SENSOR
2 GND
CN822
1 GND
2 SW DATA 2
3 SW DATA 1
4 SW DATA 3
5 ML(+)
6 ML(-)
7 DEW SENSOR
TO CP-1(SY-A)
CN301
CDM1-12511/RP3-EX

PW-1 BOARD POWER SUPPLY CIRCUIT DIAGRAM (VHR-7800G)

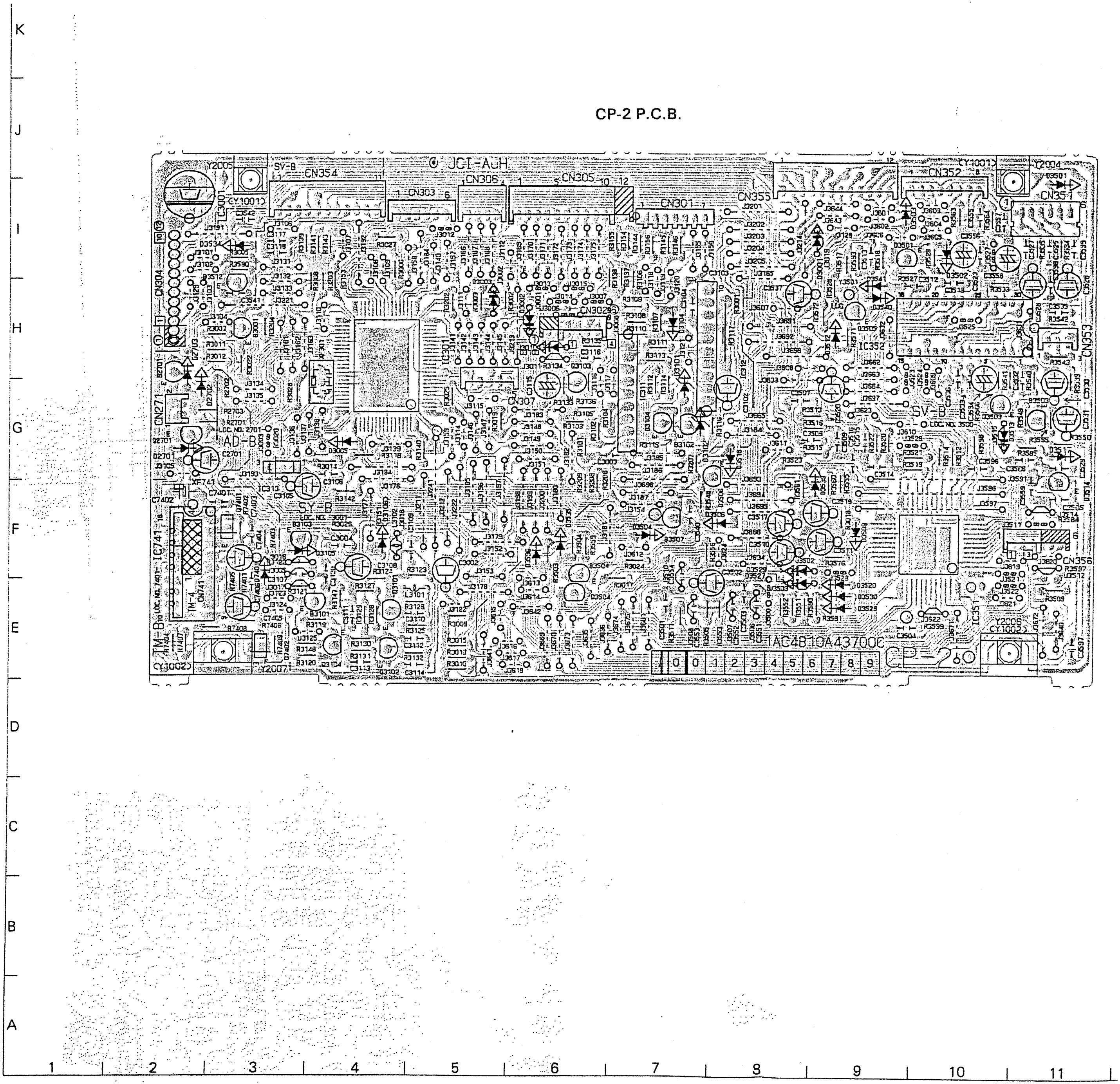

PW-1
P1-12585/LP4H-EXLX
IC511 STK7576 SWITCHING REGURATOR
OSC
P.W.M
OVER CURRENT DET.
OVER CURRENT DET.
P.W.M
SUB
13.0
13.1
5.8
6.1
6.0
0
0
13.1
0
8.1
33.7
IC512
SI-3120C
12V REGURATOR
GND
ON/OFF
VOUT
VS
VIN
0
12.2
13.0
AC IN
CN501
BL
BR
T5001
L5001
F5001
T400mA
250V
C5101
0.82/63
D5101
DBF40E
C5102 2200/50
L5110
R5102
2.2K 1/2W
L5102
200μH
L5101
200μH
R5104
0.33 1W
L5103
10μ
R5103
0.22 1W
C5115
100/16
C5113
0.1/25
C5105
47/63
F5101
T315mA
250V
D5103
1SS244
C5106
22/63
D5102
1SS244
C5112
22/35
C5109
1000/10
C5108
470/16
D5110
GZB16C
D5111
GZB10C
C5110
470/16
C5111
1000/10
D5105
D5106
D5107
D5104
C5107
1000/10
D5104 D5107...DSK10C
CN511
1 ALWAYS 13V(MH)
2 GND(MH)
3 ALWAYS 13V(MC)
4 GND(MC)
5 ALWAYS -55V
6 HEATER -
7 HEATER +
8 ALWAYS 55V
9 ALWAYS 5.8V
10 GND
11 ALWAYS 12V
12 GND
TO CP-1(PW-A) CN541
JW514
VOLTAGE : STOP MODE

PW-1 P.C.B. (VHR-7800G)

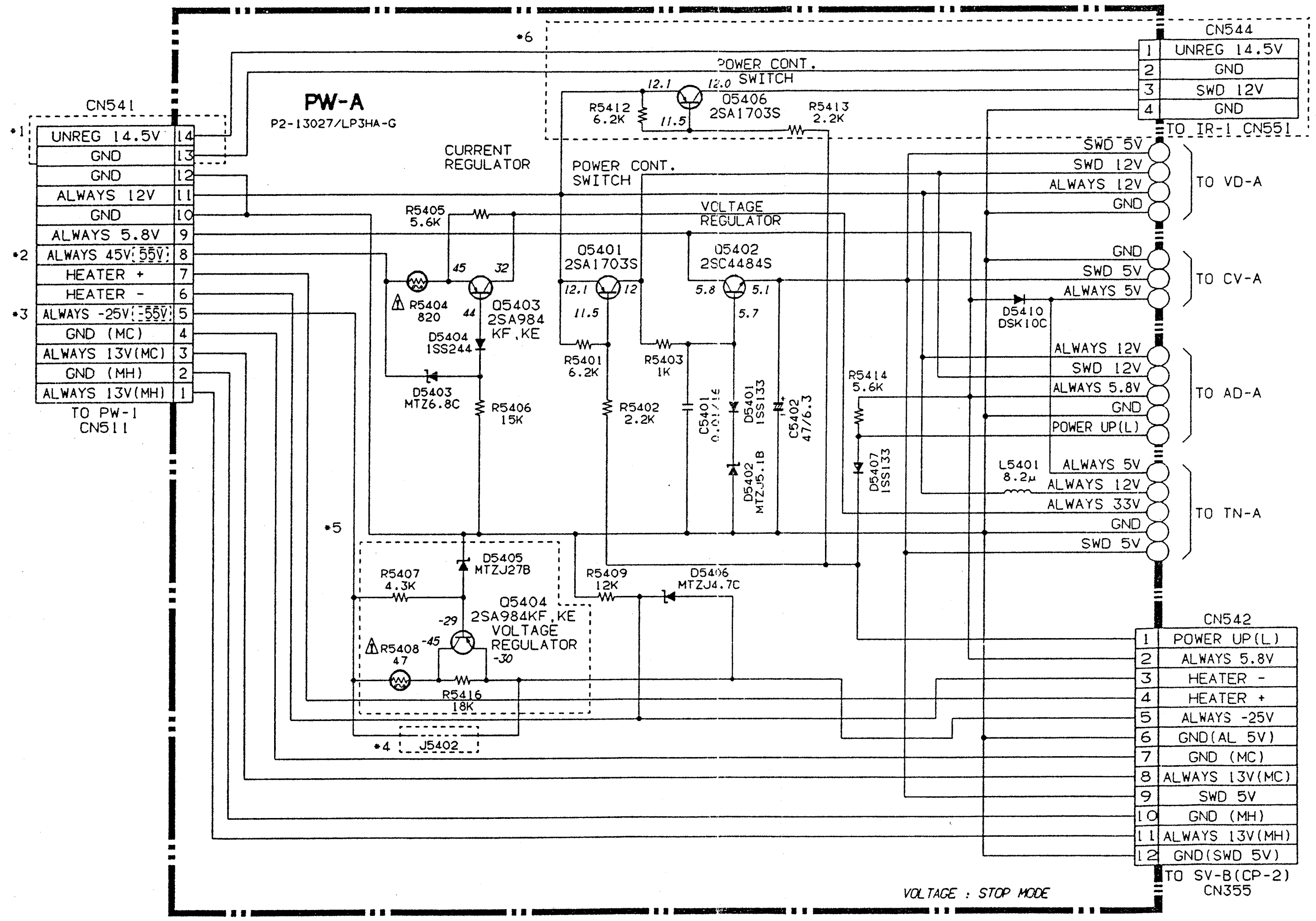

PW-1 1AC4B11A21900C
F5001 T400mA 250V
CN501
1(BR)
3(BL)
C5001
L5002
J5001
L5001
@ JCI-N1S
T5001
R5101
J5101
J5102
D5104
D5105
D5107
D5106
J5103
D5102
J5121
C5105
F5101 T315mA 250V
D5103
D5101
C5101
D5110
D5111
C5106
C5102
IC512
C5113
C5115
J5112
J5114
J5115
C5116
J5120
C5110
C5108
C5109
C5111
C5107
C5112
J5109
R5104
R5102
R5103
IC511
J5108
J5106
L5102
L5101
J5107
C5104

14 15 16 17 18 19 20 21 22

CP-2 P.C.B.


K
J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
JCI-AUH
SV-B
CN354
CN303
CN306
CN305
CN301
CN355
CN352
CN351
CN353
CN304
CN271
CN307
CN302
CN356
CN741
IC3001
IC352
IC351
IC313
IC741
AD-B
SY-B
DV-B
TM-B
Y2005
Y2004
Y1001
CY1001
Y2007
Y2006
CY1002
1AC4810A43700C
CP-2
0 0 1 2 3 4 5 6 7 8 9

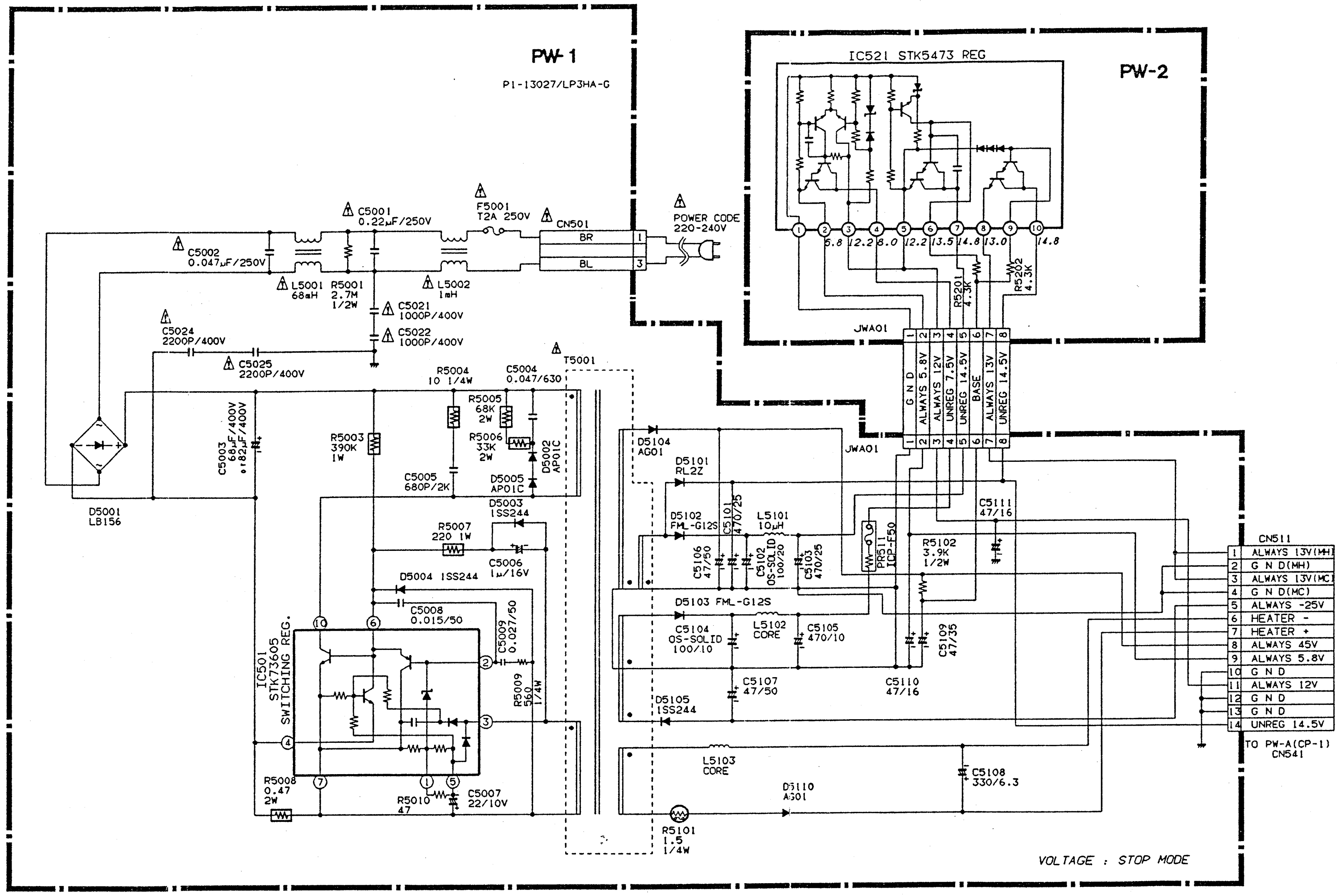
CP-1 BOARD (PW-A) POWER SUPPLY CIRCUIT DIAGRAM


PW-A
P2-13027/LP3HA-G
CN541
•1
•2
•3
UNREG 14.5V 14
GND 13
GND 12
ALWAYS 12V 11
GND 10
ALWAYS 5.8V 9
ALWAYS 45V 55V 8
HEATER + 7
HEATER - 6
ALWAYS -25V -55V 5
GND (MC) 4
ALWAYS 13V(MC) 3
GND (MH) 2
ALWAYS 13V(MH) 1
TO PW-1
CN511
CURRENT
REGULATOR
R5405
5.6K
R5404
820
45
32
44
Q5403
2SA984
KF,KE
D5404
1SS244
D5403
MTZ6.8C
R5406
15K
•6
POWER CONT.
SWITCH
R5412
6.2K
12.1
12.0
11.5
Q5406
2SA1703S
R5413
2.2K
POWER CONT.
SWITCH
VOLTAGE
REGULATOR
Q5401
2SA1703S
12.1
12
11.5
Q5402
2SC4484S
5.8
5.1
5.7
R5401
6.2K
R5403
1K
R5402
2.2K
C5401
0.01/16
D5401
1SS133
D5402
MTZJ5.1B
C5402
47/6.3
R5414
5.6K
D5407
1SS133
D5410
DSK10C
L5401
8.2μ
CN544
1 UNREG 14.5V
2 GND
3 SWD 12V
4 GND
TO IR-1 CN551
SWD 5V
SWD 12V
ALWAYS 12V
GND
TO VD-A
GND
SWD 5V
ALWAYS 5V
TO CV-A
ALWAYS 12V
SWD 12V
ALWAYS 5.8V
GND
POWER UP(L)
TO AD-A
ALWAYS 5V
ALWAYS 12V
ALWAYS 33V
GND
SWD 5V
TO TN-A
•5
R5407
4.3K
D5405
MTZJ27B
Q5404
2SA984KF,KE
VOLTAGE
REGULATOR
-29
-45
-30
R5408
47
R5416
18K
•4
J5402
R5409
12K
D5406
MTZJ4.7C
CN542
1 POWER UP(L)
2 ALWAYS 5.8V
3 HEATER -
4 HEATER +
5 ALWAYS -25V
6 GND(AL 5V)
7 GND (MC)
8 ALWAYS 13V(MC)
9 SWD 5V
10 GND (MH)
11 ALWAYS 13V(MH)
12 GND(SWD 5V)
TO SV-B(CP-2)
CN355
VOLTAGE : STOP MODE

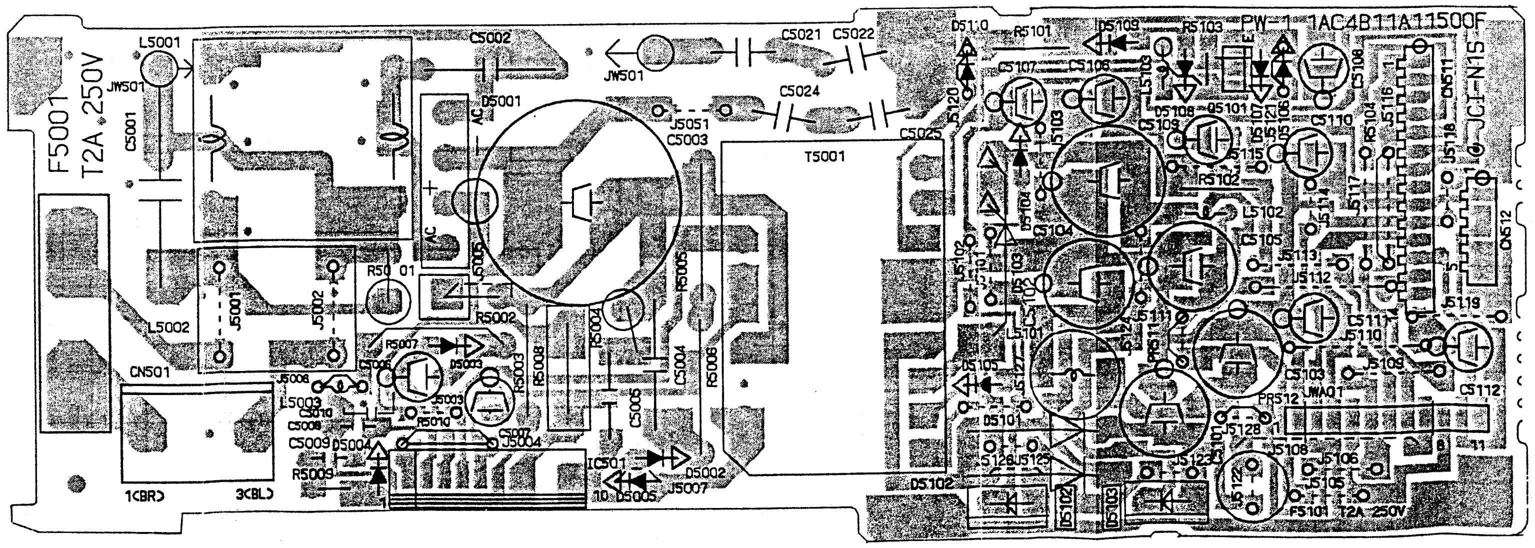
NOTE

	•1	•2	•3	•4	•5	•6
	CN541	CN541 8P	CN541 5P	J5402		
VHR-7800G	12P	ALWAYS 55V	ALWAYS -55V	NOT USE	USE	NOT USE
VHR-7810G	14P	ALWAYS 45V	ALWAYS -25V	USE	NOT USE	USE

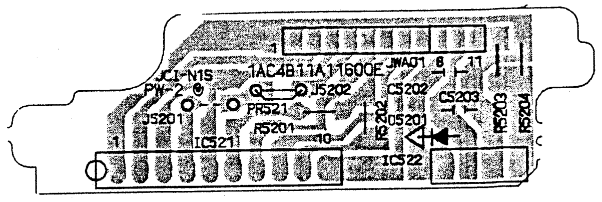
PW-1,2 BOARD POWER SUPPLY CIRCUIT DIAGRAM (VHR-7810G)


PW-1
P1-13027/LP3HA-G
PW-2
IC521 STK5473 REG
C5001 0.22μF/250V
F5001 T2A 250V
CN501
BR
BL
POWER CODE 220-240V
C5002 0.047μF/250V
L5001 68mH
R5001 2.7M 1/2W
L5002 1mH
C5021 1000P/400V
C5022 1000P/400V
C5024 2200P/400V
C5025 2200P/400V
T5001
R5004 10 1/4W
C5004 0.047/630
R5005 68K 2W
R5006 33K 2W
R5003 390K 1W
C5003 68μF/400V
D5001 LB156
D5002 AP01C
C5005 680P/2K
D5005 AP01C
D5003 1SS244
R5007 220 1W
C5006 1μ/16V
D5004 1SS244
C5008 0.015/50
C5009 0.027/50
R5009 560 1/4W
IC501 STK73605 SWITCHING REG.
R5008 0.47 2W
R5010 47
C5007 22/10V
D5104 AG01
D5101 RL2Z
D5102 FML-G12S
C5101 470/25
L5101 10μH
C5106 47/50
C5102 OS-SOLID 100/20
C5103 470/25
PS5111 ICP-F50
R5102 3.9K 1/2W
C5111 47/16
D5103 FML-G12S
C5104 OS-SOLID 100/10
L5102 CORE
C5105 470/10
C5109 47/35
C5107 47/50
C5110 47/16
D5105 1SS244
L5103 CORE
D5110 A301
C5108 330/6.3
R5101 1.5 1/4W
R5201 4.3K
R5202 4.3K
5.8 12.2 6.0 12.2 13.5 14.8 13.0 14.8
JWA01
1 G N D
2 ALWAYS 5.8V
3 ALWAYS 12V
4 UNREG 7.5V
5 UNREG 14.5V
6 BASE
7 ALWAYS 13V
8 ALWAYS 14.5V
CN511
1 ALWAYS 13V(MH)
2 G N D(MH)
3 ALWAYS 13V(MC)
4 G N D(MC)
5 ALWAYS -25V
6 HEATER -
7 HEATER +
8 ALWAYS 45V
9 ALWAYS 5.8V
10 G N D
11 ALWAYS 12V
12 G N D
13 G N D
14 UNREG 14.5V
TO PW-A(CP-1) CN541
VOLTAGE : STOP MODE

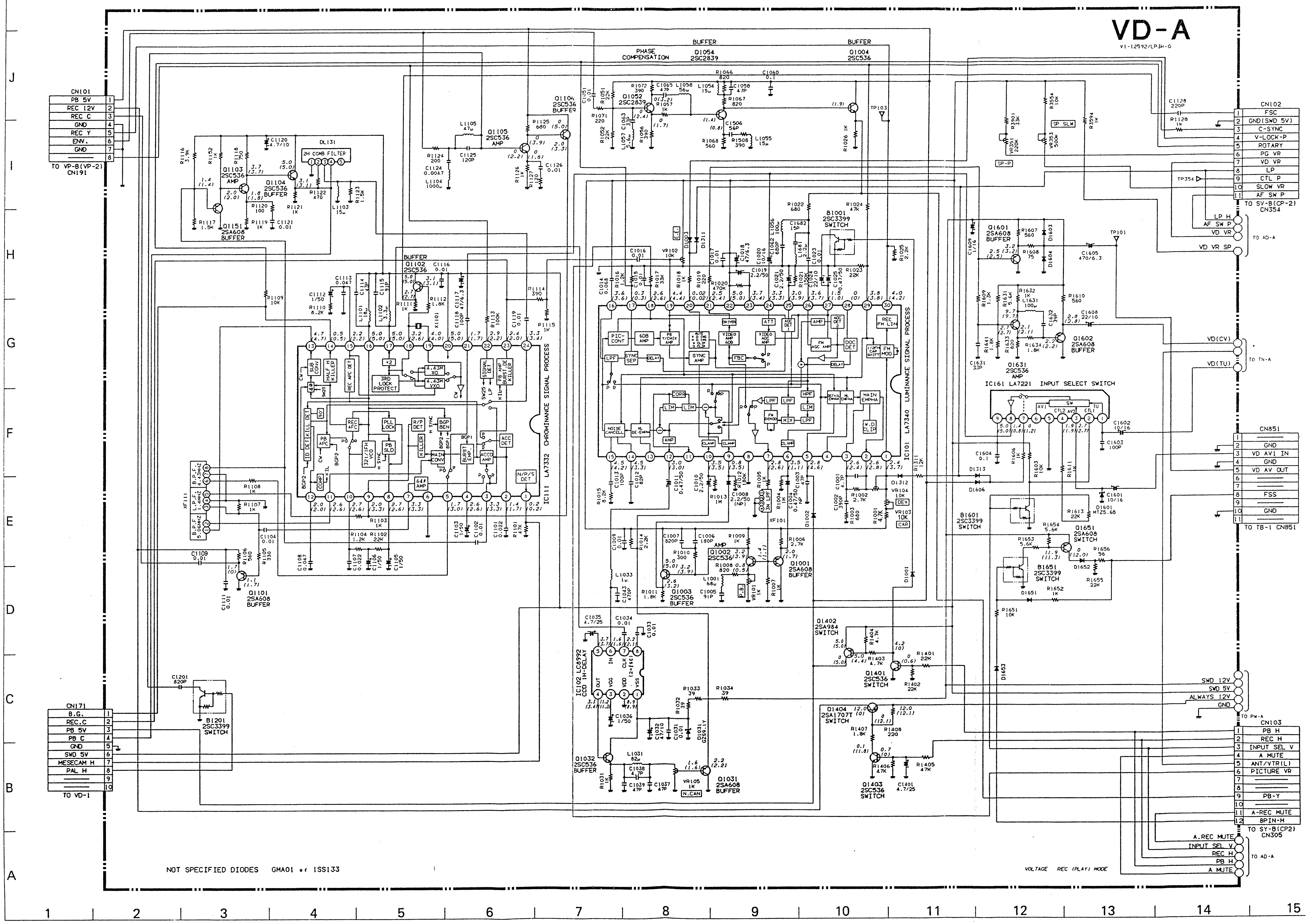
PW-1 P.C.B. (VHR-7810G)


F5001 T2A 250V
L5001
JW501
C5001
C5002
D5001
JW501
C5021
C5022
C5024
J5051
C5003
T5001
C5025
L5002
CN501
1(BR)
3(BL)
R5001
R5002
R5007
C5006
D5003
R5003
R5008
C5004
C5005
R5006
L5003
C5010
C5008
C5009
D5004
R5009
C5007
D5004
IC501
D5002
D5005
C5007
PW-1 1AC4B11A11500F
CN511
CN512
D5110
R5101
D5109
R5103
C5107
C5106
C5105
D5103
D5104
D5105
D5101
D5102
C5101
C5102
C5103
C5104
C5108
C5109
C5110
C5111
C5112
L5101
L5102
L5103
PS5111
JWA01
F5101 T2A 250V

PW-2 P.C.B. (VHR-7810G)


JC1-N15
PW-2
1AC4B11A11600E
JWA01 8 1
J5201
J5202
PR521
R5201
IC521
IC522
D5201
C5203
R5202
R5203
R5204

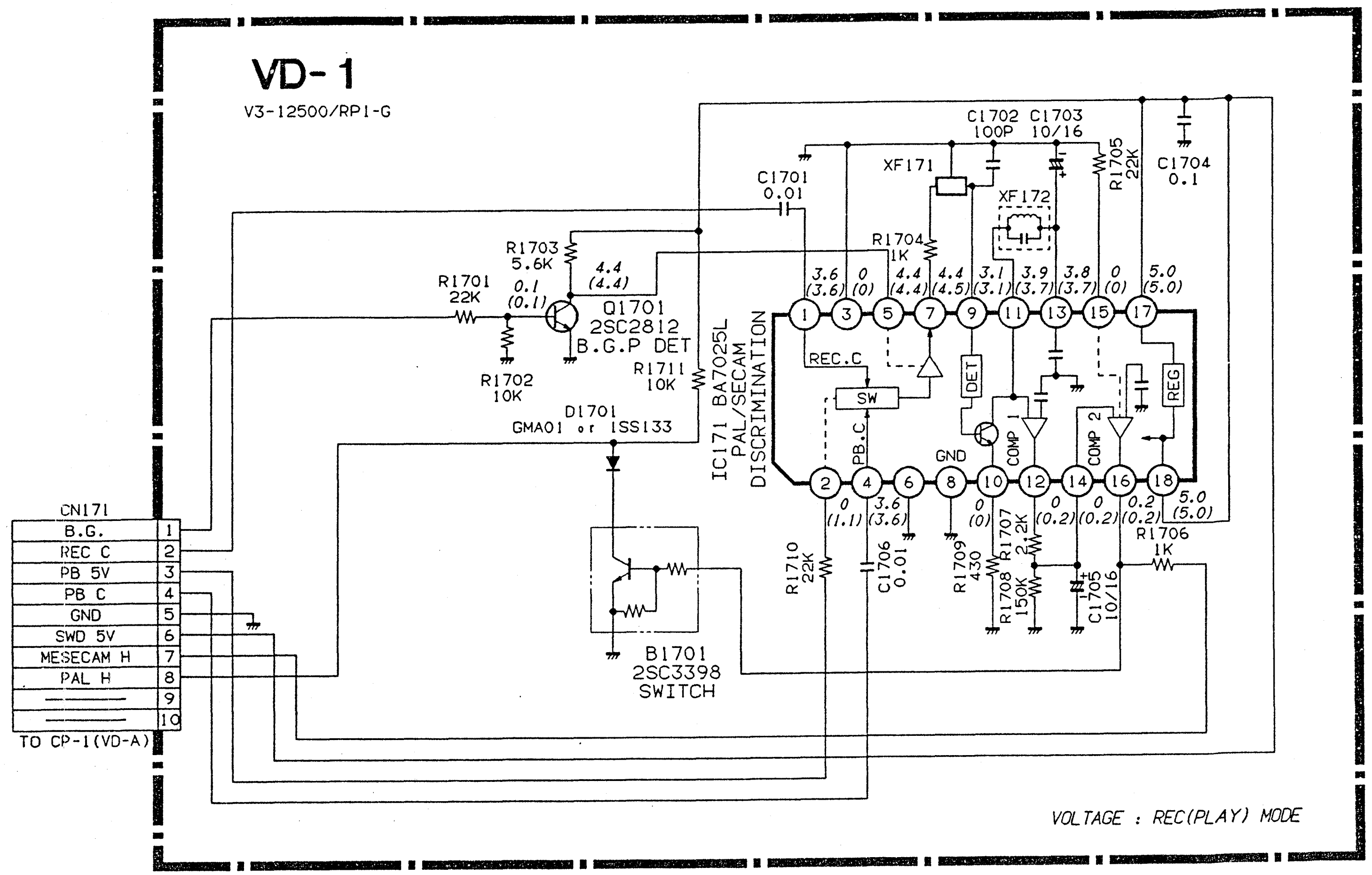
CP-1 BOARD (VD-A) VIDEO CIRCUIT DIAGRAM


VD-A
VI-12592/LP3H-G
CN101
PB 5V
REC 12V
REC C
GND
REC Y
ENV.
GND
TO VP-B(VP-2) CN191
CN171
B.G.
REC.C
PB 5V
PB C
GND
SWD 5V
MESECAM H
PAL H
TO VD-1
CN102
FSC
GND(SWD 5V)
C-SYNC
V-LOCK-P
ROTARY
PG VR
VD VR
LP
CTL P
SLOW VR
AF SW P
TO SY-B(CP-2) CN354
LP H
AF SW P
VD VR
VD VR SP
TO AD-A
VD(CV)
VD(TU)
TO TN-A
CN851
GND
VD AV1 IN
GND
VD AV OUT
FSS
GND
TO TB-1 CN851
SWD 12V
SWD 5V
ALWAYS 12V
GND
TO PW-A
CN103
PB H
REC H
INPUT SEL V
A MUTE
ANT/VTR(L)
PICTURE VR
PB-Y
A-REC MUTE
8PIN-H
TO SY-B(CP2) CN305
A.REC MUTE
INPUT SEL V
REC H
PB H
A MUTE
TO AD-A
IC111 LA7332 CHROMINANCE SIGNAL PROCESS
IC101 LA7340 LUMINANCE SIGNAL PROCESS
IC161 LA7221 INPUT SELECT SWITCH
IC102 LC8992 CCD 1H-DELAY
DL131 2H COMB FILTER
PHASE COMPENSATION Q1054 2SC2839
BUFFER Q1004 2SC536
Q1052 2SC2839
Q1105 2SC536 AMP
Q1106 2SC536 BUFFER
Q1103 2SC536 AMP
Q1104 2SC536 BUFFER
Q1151 2SA608 BUFFER
BUFFER Q1102 2SC536
Q1101 2SA608 BUFFER
B1201 2SC3399 SWITCH
B1001 2SC3399 SWITCH
Q1002 2SC536 AMP
Q1001 2SA608 BUFFER
Q1003 2SC536 BUFFER
Q1032 2SC536 BUFFER
Q1031 2SA608 BUFFER
Q1402 2SA984 SWITCH
Q1401 2SC536 SWITCH
Q1404 2SA1707T SWITCH
Q1403 2SC536 SWITCH
Q1601 2SA608 BUFFER
Q1631 2SC536 AMP
Q1602 2SA608 BUFFER
B1601 2SC3399 SWITCH
Q1651 2SA608 SWITCH
B1651 2SC3399 SWITCH
XF111
XF101
TP101
TP103
TP354
SP-P
SP SLW
VR105 N.CAN
VR103 CAR
VR104 DEV
K
J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

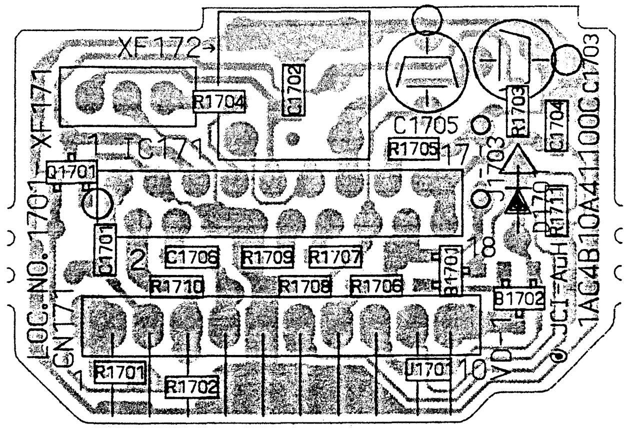
NOT SPECIFIED DIODES GMA01 or 1SS133

VOLTAGE REC (PLAY) MODE

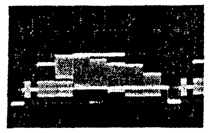
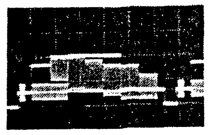
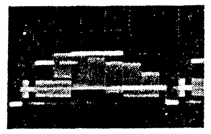
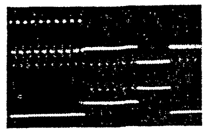
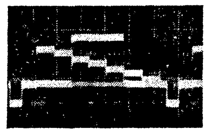
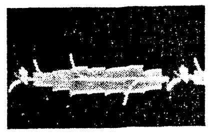
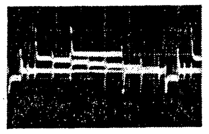
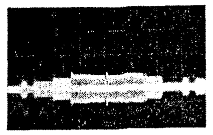
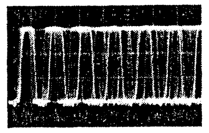
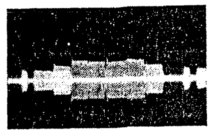
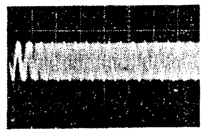
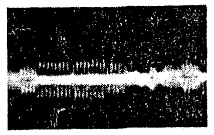
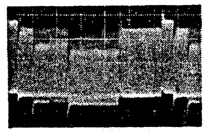
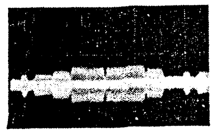
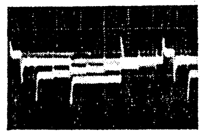
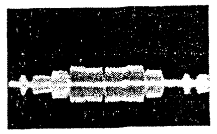
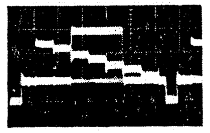
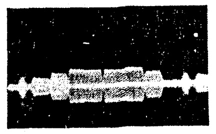
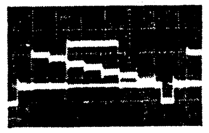
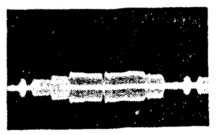
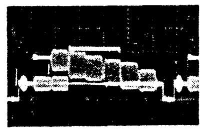
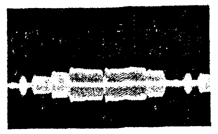
VD-1 BOARD PAL/SECAM DISCRIMINATION CIRCUIT DIAGRAM


VD-1
V3-12500/RP1-G
CN171
1 B.G.
2 REC C
3 PB 5V
4 PB C
5 GND
6 SWD 5V
7 MESECAM H
8 PAL H
9
10
TO CP-1(VD-A)
R1701 22K
R1702 10K
R1703 5.6K
Q1701 2SC2812 B.G.P DET
R1711 10K
D1701 GMA01 or 1SS133
B1701 2SC3398 SWITCH
C1701 0.01
XF171
XF172
C1702 100P
C1703 10/16
R1704 1K
R1705 22K
C1704 0.1
IC171 BA7025L PAL/SECAM DISCRIMINATION
REC.C
SW
PB.C
DET
GND
COMP 1
COMP 2
REG
R1710 22K
C1706 0.01
R1709 430
R1707 2.2K
R1708 150K
C1705 10/16
R1706 1K
VOLTAGE : REC(PLAY) MODE

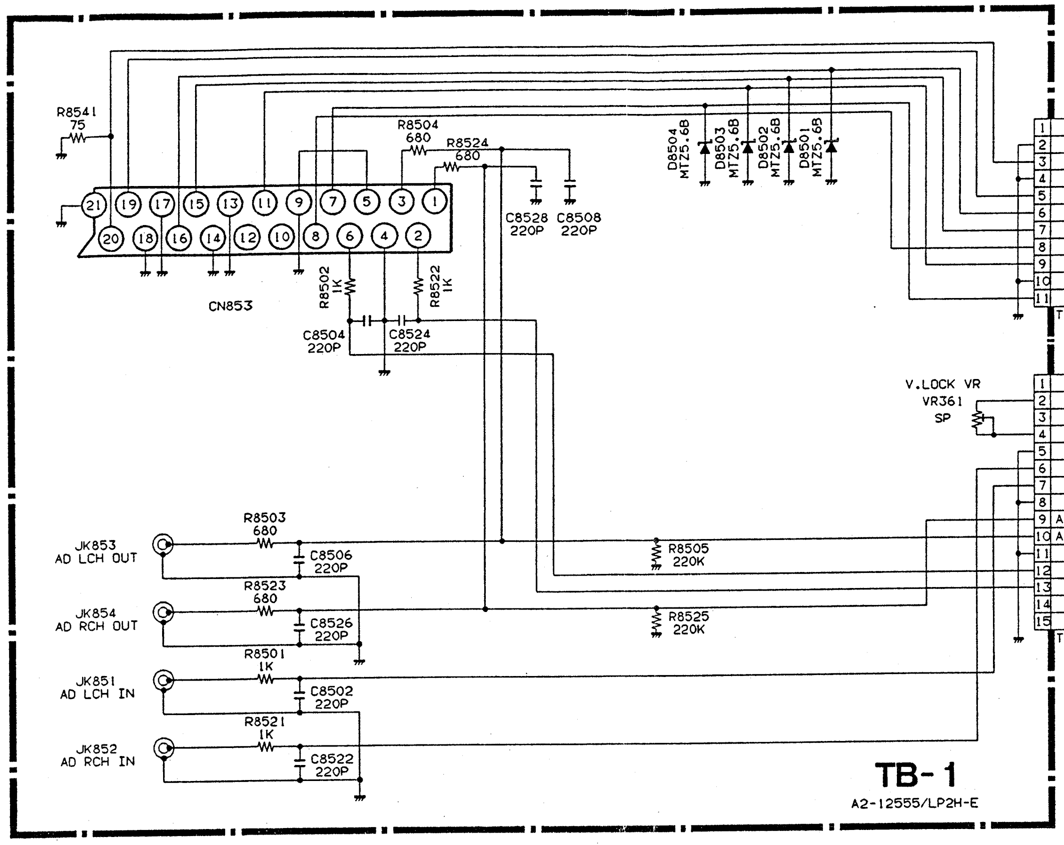
VD-1 P.C.B.


XF172
XF171
R1704
C1702
IC171
C1705
R1705
R1703
C1704
C1703
D1701
Q1701
R1711
C1701
C1706
R1709
R1707
R1710
R1708
R1706
B1701
B1702
CN171
R1701
R1702
J1701
LOC.NO.1701
1AG4B10A4110CC
1
2
17
18
10

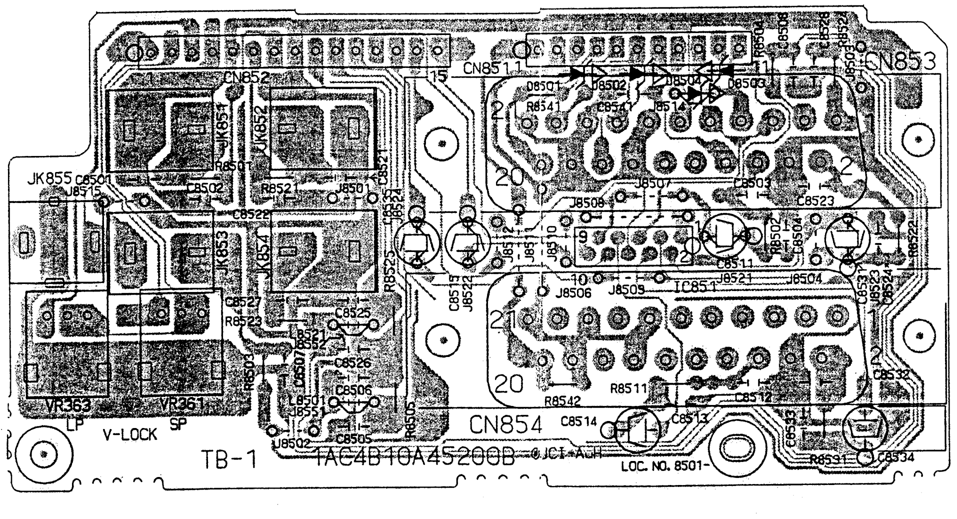
WAVEFORM OF VIDEO

TEST LOCATION	WAVEFORM	MODE/LEVEL	TEST LOCATION	WAVEFORM	MODE/LEVEL
IC101 Pin 24		REC, EE 1 Vp-p	IC101 Pin 21		REC, EE 2 Vp-p
IC101 Pin 7		REC, EE 1 Vp-p	IC101 (UPPER) Pin 21 (LOWER) Pin 20		STILL (UPPER) 2 Vp-p (LOWER) 5 Vp-p
IC101 Pin 6		REC, EE 0.45 Vp-p	IC111 Pin 21		REC, EE 1 Vp-p
IC101 Pin 2		REC, EE 1.3 Vp-p	IC111 Pin 3		REC, EE 0.14 Vp-p
IC101 Pin 30		REC, EE 1.5 Vp-p	IC111 Pin 9		REC, EE 0.8Vp-p
IC101 Pin 26		PB 0.3 Vp-p	Q1105 Base		PB 0.1 Vp-p
IC101 Pin 7		PB 2.0 Vp-p	Q1106 Emitter		PB 0.8 Vp-p
Q1002 Base		PB 0.5 Vp-p	IC111 Pin 7		PB 0.3 Vp-p
IC101 Pin 9		PB 0.6 Vp-p	IC111 Pin 5		PB 1.2 Vp-p
IC101 Pins 10/12		PB 0.5 Vp-p	IC111 Pin 24		PB 0.24 Vp-p
IC101 Pin 21		PB 2 Vp-p	IC111 Pin 23		PB 0.7 Vp-p

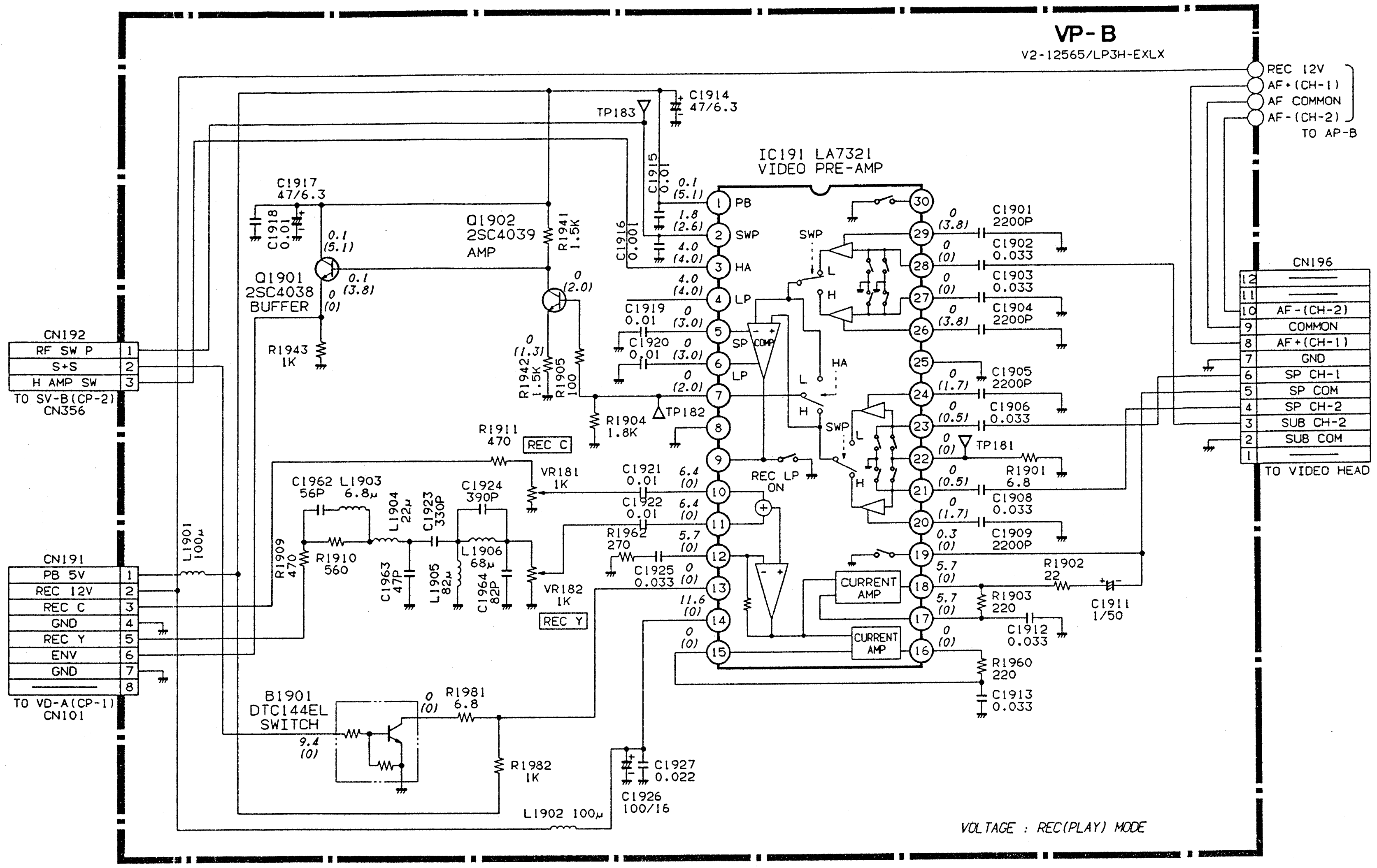
TB-1 BOARD TERMINAL CIRCUIT DIAGRAM


CN851
1
2 GND
3 VD AV1 IN
4 GND
5 VD AV OUT
6
7
8 F.S.S.
9
10 GND
11
TO CP-1(VD-A)
CN852
1
2 SP(V-LOCK)
3
4 COM(V-LOCK)
5 GND
6 AD RCA-R IN
7 AD RCA-L IN
8 GND
9 AD LINE-R OUT
10 AD LINE-L OUT
11 GND
12 AD AV L IN
13 AD AV R IN
14
15
TO CP-1(AD-A)
CN853
R8541 75
R8504 680
R8524 680
R8502 1K
R8522 1K
C8504 220P
C8524 220P
C8528 220P
C8508 220P
D8504 MTZ5.6B
D8503 MTZ5.6B
D8502 MTZ5.6B
D8501 MTZ5.6B
V.LOCK VR
VR361
SP
R8503 680
JK853 AD LCH OUT
C8506 220P
R8523 680
JK854 AD RCH OUT
C8526 220P
R8501 1K
JK851 AD LCH IN
C8502 220P
R8521 1K
JK852 AD RCH IN
C8522 220P
R8505 220K
R8525 220K
TB-1
A2-12555/LP2H-E

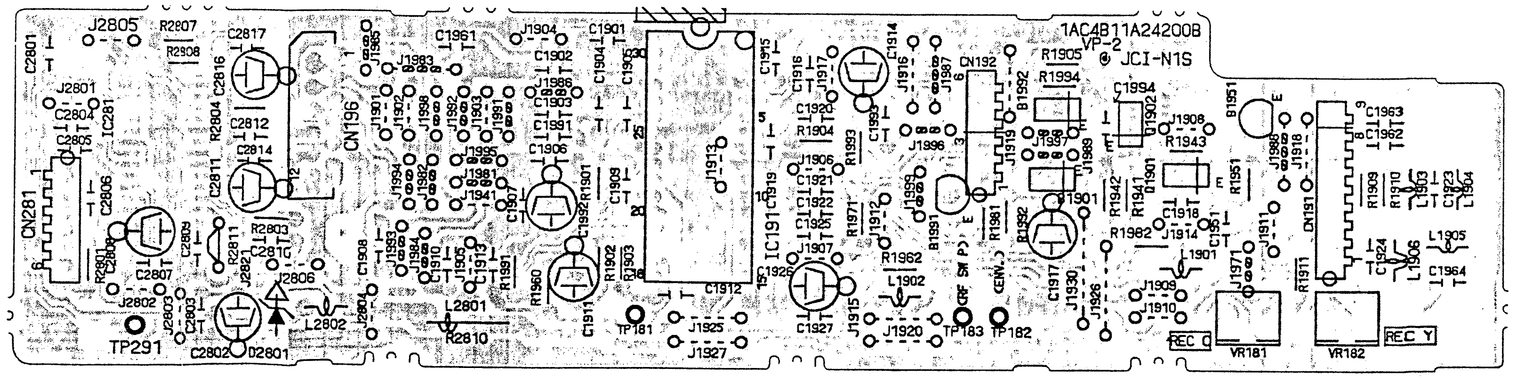
TB-1 P.C.B.


CN852
CN851
CN853
CN854
JK855
JK854
JK853
JK852
JK851
VR363
VR361
LP
SP
V-LOCK
TB-1
1AC4B10A45200B
JCI-AJH
LOC. NO. 8501-

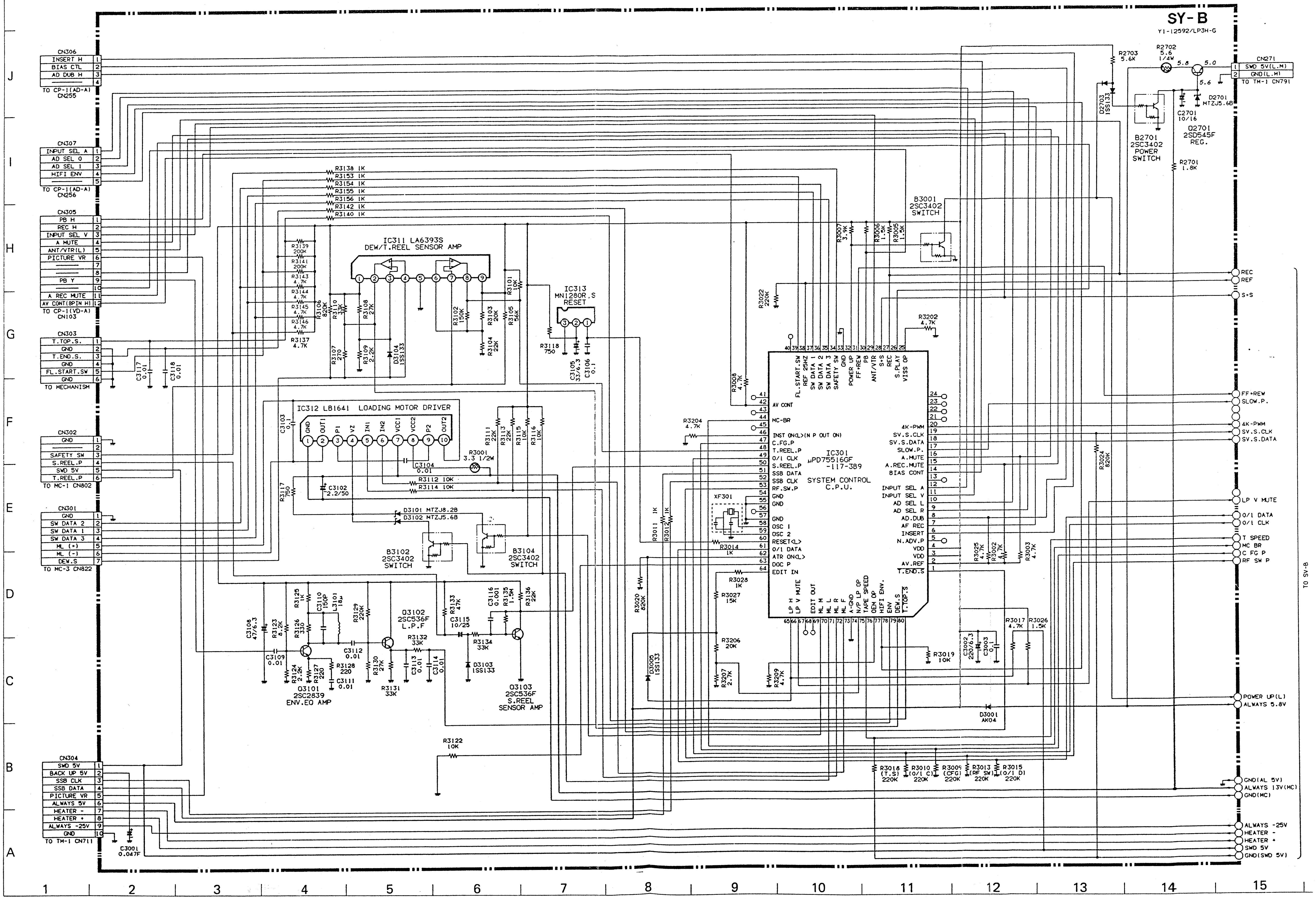
VP-2 BOARD (VP-B) VIDEO PRE-AMP CIRCUIT DIAGRAM


VP-B
V2-12565/LP3H-EXLX
REC 12V
AF+(CH-1)
AF COMMON
AF-(CH-2)
TO AP-B
IC191 LA7321
VIDEO PRE-AMP
Q1902
2SC4039
AMP
Q1901
2SC4038
BUFFER
TP183
C1914 47/6.3
C1917 47/6.3
C1918 0.01
R1941 1.5K
R1943 1K
R1942 1.5K
R1905 100
R1904 1.8K
TP182
TP181
R1911 470
REC C
REC Y
VR181 1K
VR182 1K
C1962 56P
L1903 6.8μ
L1904 22μ
C1923 330P
C1924 390P
L1906 68μ
C1963 47P
L1905 82μ
C1964 82P
R1909 470
R1910 560
L1901 100μ
R1962 270
C1921 0.01
C1922 0.01
C1925 0.033
C1919 0.01
C1920 0.01
C1915 0.01
C1916 0.001
PB
SWP
HA
LP
SP
COMP
REC LP ON
CURRENT AMP
C1901 2200P
C1902 0.033
C1903 0.033
C1904 2200P
C1905 2200P
C1906 0.033
R1901 6.8
C1908 0.033
C1909 2200P
R1902 22
C1911 1/50
R1903 220
C1912 0.033
R1960 220
C1913 0.033
CN196
12
11
10 AF-(CH-2)
9 COMMON
8 AF+(CH-1)
7 GND
6 SP CH-1
5 SP COM
4 SP CH-2
3 SUB CH-2
2 SUB COM
1
TO VIDEO HEAD
CN192
RF SW P 1
S+S 2
H AMP SW 3
TO SV-B(CP-2) CN356
CN191
PB 5V 1
REC 12V 2
REC C 3
GND 4
REC Y 5
ENV 6
GND 7
8
TO VD-A(CP-1) CN101
B1901
DTC144EL
SWITCH
R1981 6.8
R1982 1K
C1927 0.022
C1926 100/16
L1902 100μ
VOLTAGE : REC(PLAY) MODE

VP-2 P.C.B.

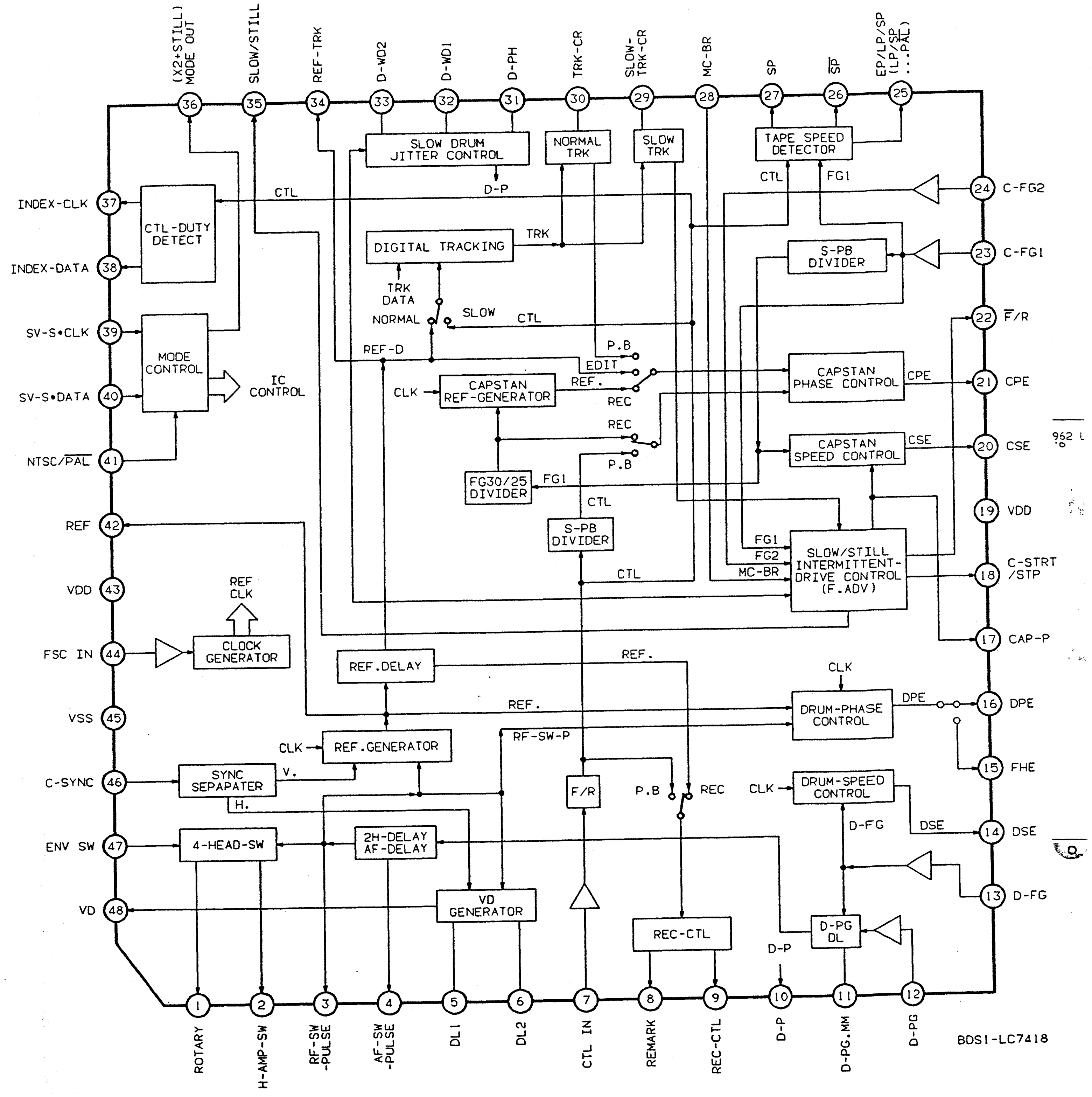

CN281
CN196
CN192
CN191
IC191
IC281
TP291
TP181
TP183
TP182
VR181
VR182
REC C
REC Y
1AC4B11A24200B
VP-2
JCI-N1S

CP-2 BOARD (SY-B) SYSTEM CONTROL CIRCUIT DIAGRAM

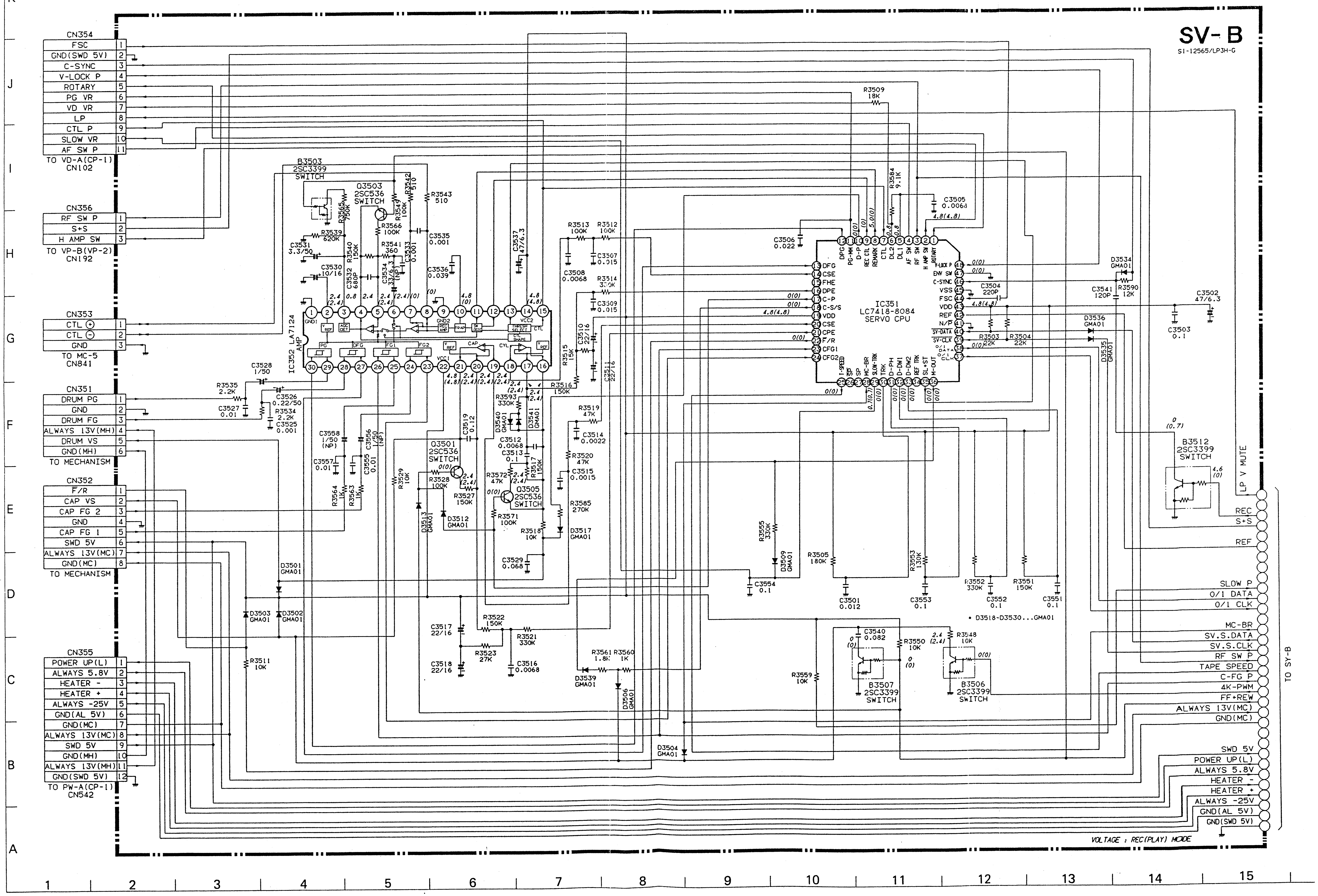


K
J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
SY-B
Y1-12592/LP3H-G
CN306
INSERT H
BIAS CTL
AD DUB H
TO CP-1(AD-A) CN255
CN307
INPUT SEL A
AD SEL 0
AD SEL 1
HIFI ENV
TO CP-1(AD-A) CN256
CN305
PB H
REC H
INPUT SEL V
A MUTE
ANT/VTR(L)
PICTURE VR
PB Y
A REC MUTE
AV CONT(8PIN H)
TO CP-1(VD-A) CN103
CN303
T.TOP.S.
GND
T.END.S.
GND
FL.START.SW
GND
TO MECHANISM
CN302
GND
SAFETY SW
S.REEL.P
SWD 5V
T.REEL.P
TO MC-1 CN802
CN301
GND
SW DATA 2
SW DATA 1
SW DATA 3
ML (+)
ML (-)
DEW.S
TO MC-3 CN822
CN304
SWD 5V
BACK UP 5V
SSB CLK
SSB DATA
PICTURE VR
ALWAYS 5V
HEATER -
HEATER +
ALWAYS -25V
GND
TO TM-1 CN711
C3001 0.047F
CN271
SWD 5V(L.M)
GND(L.M)
TO TM-1 CN791
R2703 5.6K
R2702 5.6 1/4W
5.8
5.0
5.6
D2701 MTZJ5.6B
C2701 10/16
Q2701 2SD545F REG.
D2703 1SS133
B2701 2SC3402 POWER SWITCH
R2701 1.8K
R3138 1K
R3153 1K
R3154 1K
R3155 1K
R3156 1K
R3142 1K
R3140 1K
B3001 2SC3402 SWITCH
R3007 3.9K
R3006 1.5K
R3005 1.5K
IC311 LA6393S DEW/T.REEL SENSOR AMP
R3139 200K
R3141 200K
R3143 4.7K
R3144 4.7K
R3145 4.7K
R3146 4.7K
R3137 4.7K
R3106 820K
R3110 33K
R3108 27K
R3107 270
R3109 2.2K
D3104 1SS133
R3102 150K
R3103 20K
R3104 22K
R3105 56K
R3101 10K
IC313 MN1280R.S RESET
R3118 750
C3105 33/6.3
C3106 0.1
R3022 220K
R3202 4.7K
C3117 0.01
C3118 0.01
IC312 LB1641 LOADING MOTOR DRIVER
GND
OUT1
P1
V2
IN1
IN2
VCC1
VCC2
P2
OUT2
C3103 0.1
R3001 3.3 1/2W
C3104 0.01
R3112 10K
R3114 10K
R3111 22K
R3113 22K
R3115 10K
R3116 10K
R3117 750
C3102 2.2/50
D3101 MTZJ8.2B
D3102 MTZJ5.6B
B3102 2SC3402 SWITCH
B3104 2SC3402 SWITCH
R3008 4.7K
R3204 4.7K
IC301 μPD75516GF -117-389 SYSTEM CONTROL C.P.U.
FL.START.SW
REF 25HZ
SW DATA 1
SW DATA 2
SW DATA 3
SAFETY SW
GND
POWER UP
FF+REW
PB
ANT/VTR
S+S
REC
S.PLAY
VISS OP
AV CONT
MC-BR
INST ON(L)(N P OUT ON)
C.FG.P
T.REEL.P
O/I CLK
S.REEL.P
SSB DATA
SSB CLK
RF.SW.P
GND
GND
GND
OSC 1
OSC 2
RESET(L)
O/I DATA
ATR ON(L)
DOC P
EDIT IN
4K-PWM
SV.S.CLK
SV.S.DATA
SLOW.P.
A.MUTE
A.REC.MUTE
BIAS CONT
INPUT SEL A
INPUT SEL V
AD SEL L
AD SEL R
AD.DUB
AF REC
INSERT
N.ADV.P
VDD
VDD
AV.REF
T.END.S
LP H
LP V MUTE
EDIT OUT
ML H
ML L
ML R
ML F
A-GND
A. LP OP
TAPE SPEED
DEW OP
HIFI ENV.
ENV
DEW.S
T.TOP.S
XF301
R3011 1K
R3012 1K
R3014 1K
R3028 1K
R3027 15K
R3206 20K
R3207 2.7K
R3209 4.7K
R3020 820K
D3005 1SS133
R3019 10K
C3002 220/6.3
C3003 0.1
R3017 4.7K
R3026 1.5K
R3025 4.7K
R3002 4.7K
R3003 4.7K
R3024 820K
D3001 AK04
R3018 (T.S) 220K
R3010 (O/I C) 220K
R3009 (CFG) 220K
R3013 (RF SW) 220K
R3015 (O/I D) 220K
REC
REF
S+S
FF+REW
SLOW.P.
4K-PWM
SV.S.CLK
SV.S.DATA
LP V MUTE
O/I DATA
O/I CLK
T SPEED
MC BR
C FG P
RF SW P
POWER UP(L)
ALWAYS 5.8V
GND(AL 5V)
ALWAYS 13V(MC)
GND(MC)
ALWAYS -25V
HEATER -
HEATER +
SWD 5V
GND(SWD 5V)
TO SV-B
C3108 47/6.3
R3123 8.2K
R3125 1K
R3126 330
C3110 150P
L3101 18μ
R3129 220K
C3109 0.01
C3112 0.01
R3124 2.2K
R3127 220
R3128 220
C3111 0.01
Q3101 2SC2839 ENV.EQ AMP
R3130 27K
R3131 33K
R3132 33K
C3113 0.01
C3114 0.01
Q3102 2SC536F L.P.F
R3133 47K
C3115 10/25
R3134 33K
D3103 1SS133
C3116 0.001
R3135 1.5M
R3136 22K
Q3103 2SC536F S.REEL SENSOR AMP
R3122 10K

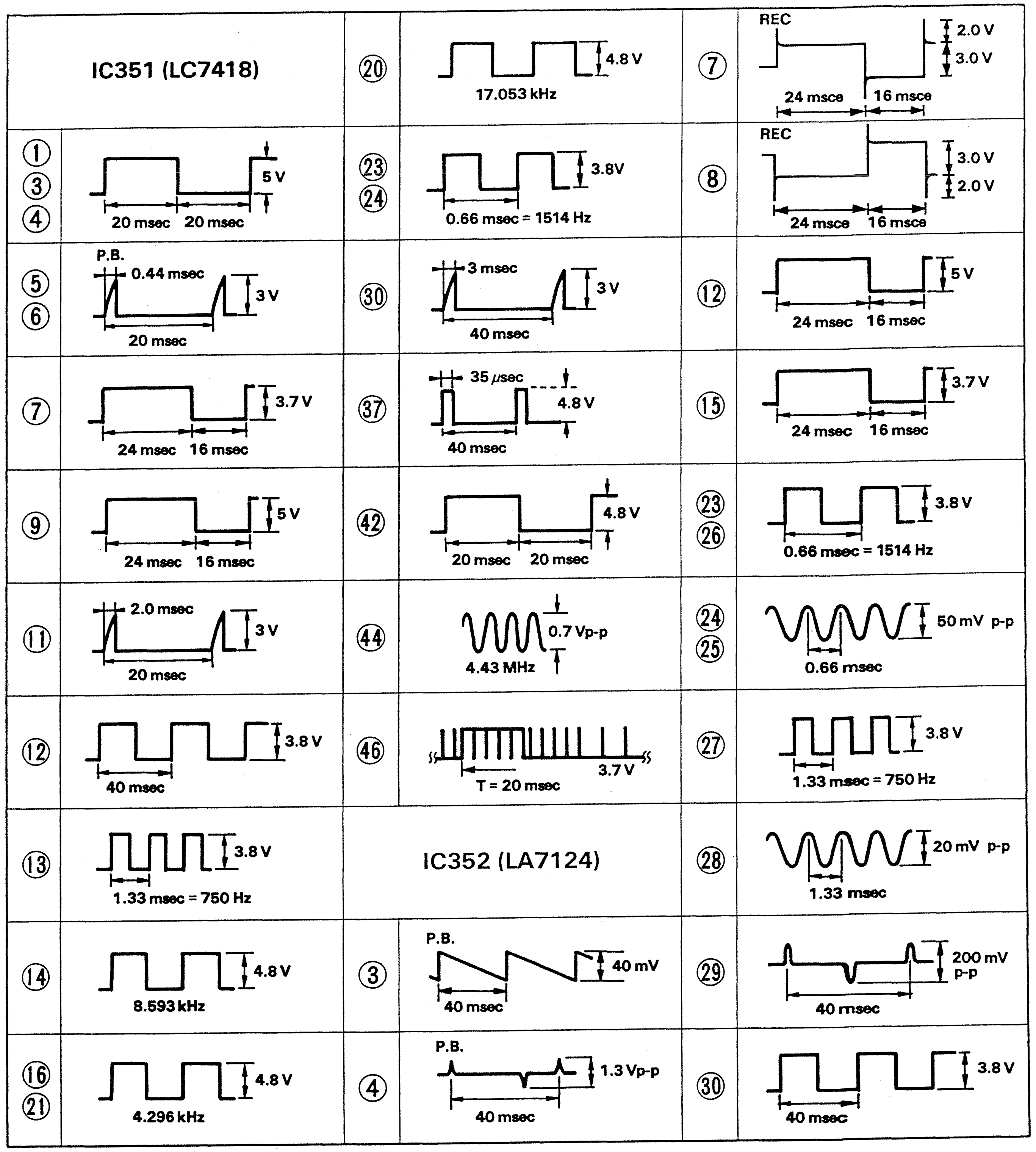
IC351 (LC7418) DIGITAL SERVO IC INTER BLOCK DIAGRAM


(X2+STILL) MODE OUT
SLOW/STILL
REF-TRK
D-WD2
D-WD1
D-PH
TRK-CR
SLOW-TRK-CR
MC-BR
SP
SP
EP/LP/SP (LP/SP ...PAL)
36
35
34
33
32
31
30
29
28
27
26
25
SLOW DRUM JITTER CONTROL
D-P
NORMAL TRK
SLOW TRK
TAPE SPEED DETECTOR
CTL
FG1
C-FG2
24
INDEX-CLK
37
CTL-DUTY DETECT
CTL
INDEX-DATA
38
DIGITAL TRACKING
TRK
S-PB DIVIDER
23
C-FG1
TRK DATA
NORMAL
SLOW
CTL
22
F/R
SV-S•CLK
39
MODE CONTROL
IC CONTROL
REF-D
P.B
EDIT
REF.
CAPSTAN PHASE CONTROL
CPE
21
CPE
SV-S•DATA
40
CLK
CAPSTAN REF-GENERATOR
REC
REC
CAPSTAN SPEED CONTROL
CSE
20
CSE
NTSC/PAL
41
P.B
FG30/25 DIVIDER
FG1
19
VDD
CTL
REF
42
S-PB DIVIDER
FG1
FG2
MC-BR
SLOW/STILL INTERMITTENT-DRIVE CONTROL (F.ADV)
VDD
43
REF CLK
CTL
18
C-STRT /STP
17
CAP-P
FSC IN
44
CLOCK GENERATOR
REF.DELAY
REF.
CLK
VSS
45
REF.
DRUM-PHASE CONTROL
DPE
16
DPE
CLK
REF.GENERATOR
RF-SW-P
15
FHE
C-SYNC
46
SYNC SEPAPATER
V.
H.
F/R
P.B
REC
CLK
DRUM-SPEED CONTROL
D-FG
DSE
14
DSE
ENV SW
47
4-HEAD-SW
2H-DELAY AF-DELAY
13
D-FG
VD
48
VD GENERATOR
REC-CTL
D-P
D-PG DL
1
2
3
4
5
6
7
8
9
10
11
12
ROTARY
H-AMP-SW
RF-SW -PULSE
AF-SW -PULSE
DL1
DL2
CTL IN
REMARK
REC-CTL
D-P
D-PG.MM
D-PG
BDS1-LC7418

CP-2 BOARD (SV-B) SERVO CIRCUIT DIAGRAM

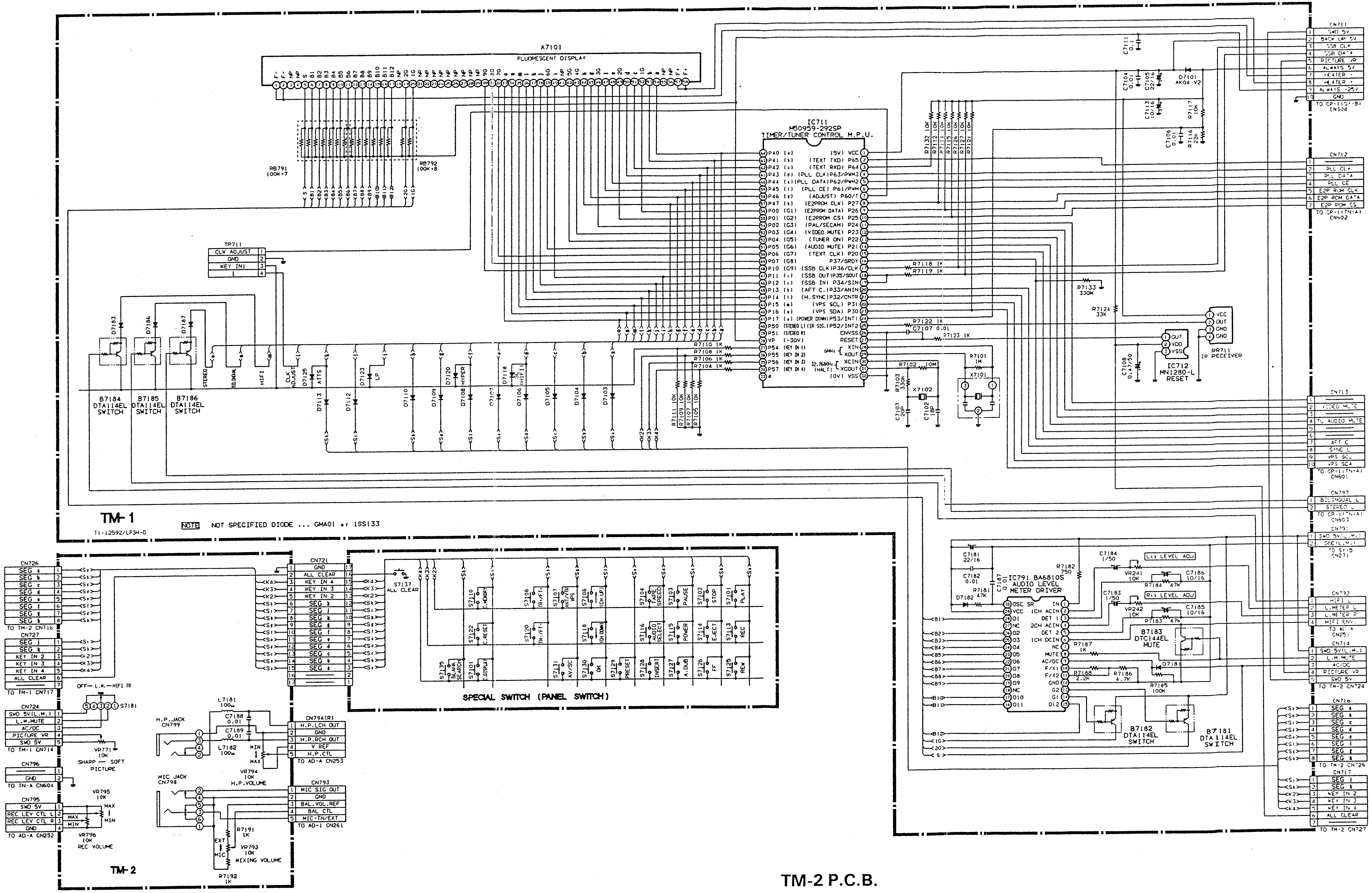

SV-B
S1-12565/LP3H-G
CN354
FSC
GND(SWD 5V)
C-SYNC
V-LOCK P
ROTARY
PG VR
VD VR
LP
CTL P
SLOW VR
AF SW P
TO VD-A(CP-1) CN102
CN356
RF SW P
S+S
H AMP SW
TO VP-B(VP-2) CN192
CN353
CTL ⊕
CTL ⊖
GND
TO MC-5 CN841
CN351
DRUM PG
GND
DRUM FG
ALWAYS 13V(MH)
DRUM VS
GND(MH)
TO MECHANISM
CN352
F/R
CAP VS
CAP FG 2
GND
CAP FG 1
SWD 5V
ALWAYS 13V(MC)
GND(MC)
TO MECHANISM
CN355
POWER UP(L)
ALWAYS 5.8V
HEATER -
HEATER +
ALWAYS -25V
GND(AL 5V)
GND(MC)
ALWAYS 13V(MC)
SWD 5V
GND(MH)
ALWAYS 13V(MH)
GND(SWD 5V)
TO PW-A(CP-1) CN542
IC352 LA7124 AMP
IC351 LC7418-8084 SERVO CPU
B3503 2SC3399 SWITCH
Q3503 2SC536 SWITCH
Q3501 2SC536 SWITCH
Q3505 2SC536 SWITCH
B3512 2SC3399 SWITCH
B3507 2SC3399 SWITCH
B3506 2SC3399 SWITCH
LP V MUTE
REC
S+S
REF
SLOW P
0/1 DATA
0/1 CLK
MC-BR
SV.S.DATA
SV.S.CLK
RF SW P
TAPE SPEED
C-FG P
4K-PWM
FF+REW
ALWAYS 13V(MC)
GND(MC)
SWD 5V
POWER UP(L)
ALWAYS 5.8V
HEATER -
HEATER +
ALWAYS -25V
GND(AL 5V)
GND(SWD 5V)
TO SY-B
• D3518-D3530...GMA01
VOLTAGE : REC(PLAY) MODE
K
J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

WAVEFORM OF SERVO

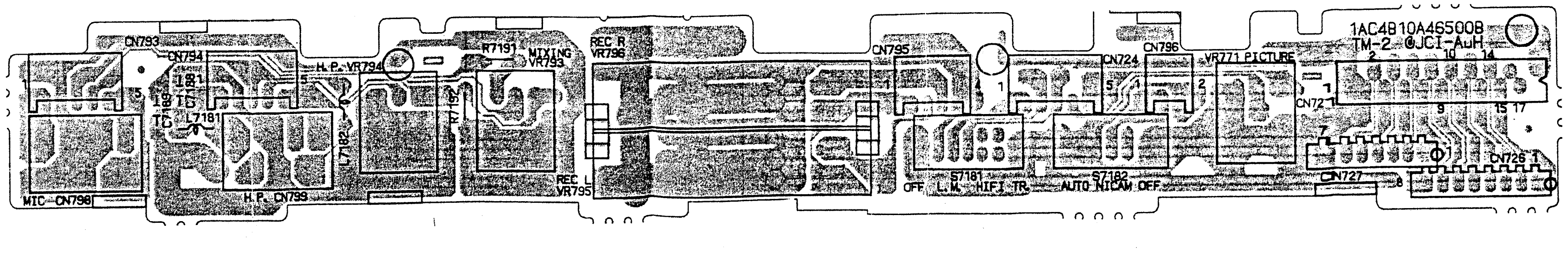

IC351 (LC7418)
①③④ 5 V 20 msec 20 msec
⑤⑥ P.B. 0.44 msec 3 V 20 msec
⑦ 3.7 V 24 msec 16 msec
⑨ 5 V 24 msec 16 msec
⑪ 2.0 msec 3 V 20 msec
⑫ 3.8 V 40 msec
⑬ 3.8 V 1.33 msec = 750 Hz
⑭ 4.8 V 8.593 kHz
⑯㉑ 4.8 V 4.296 kHz
⑳ 4.8 V 17.053 kHz
㉓㉔ 3.8V 0.66 msec = 1514 Hz
㉚ 3 msec 3 V 40 msec
㊲ 35 μsec 4.8 V 40 msec
㊷ 4.8 V 20 msec 20 msec
㊹ 0.7 Vp-p 4.43 MHz
㊻ 3.7 V T = 20 msec
IC352 (LA7124)
③ P.B. 40 mV 40 msec
④ P.B. 1.3 Vp-p 40 msec
⑦ REC 2.0 V 3.0 V 24 msce 16 msce
⑧ REC 3.0 V 2.0 V 24 msce 16 msce
⑫ 5 V 24 msec 16 msec
⑮ 3.7 V 24 msec 16 msec
㉓㉖ 3.8 V 0.66 msec = 1514 Hz
㉔㉕ 50 mV p-p 0.66 msec
㉗ 3.8 V 1.33 msec = 750 Hz
㉘ 20 mV p-p 1.33 msec
㉙ 200 mV p-p 40 msec
㉚ 3.8 V 40 msec

WF-S3

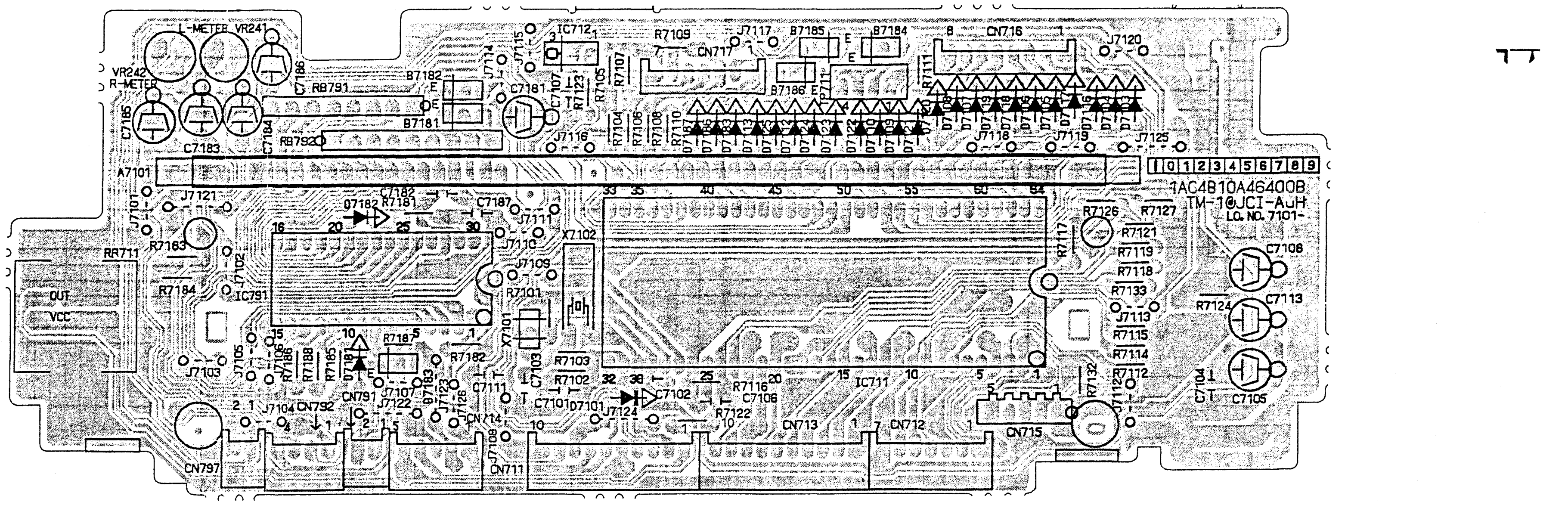
TM-1 BOARD DISPLAY, TIMER, SWITCH & TUNING CONTROL CIRCUIT DIAGRAM
TM-2 BOARD SYSTEM SWITCH & TERMINAL CIRCUIT DIAGRAM


K
J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
13
A7101
FLUORESCENT DISPLAY
IC711
M50959-292SP
TIMER/TUNER CONTROL M.P.U.
RB791 100K×7
RB792 100K×8
TP711
CLK ADJUST
GND
KEY IN1
B7184 DTA114EL SWITCH
B7185 DTA114EL SWITCH
B7186 DTA114EL SWITCH
STEREO
BILINGUAL
HIFI
CLK ADJUST
ATS
LP
HYPER
HIFI
IC712 MN1280-L RESET
RR711 IR RECEIVER
X7101
X7102
D7101 AK04-V2
CN711
CN712
CN713
CN797
CN791
CN792
CN714
CN716
CN717
TM-1
TI-12592/LP3H-G
NOTE NOT SPECIFIED DIODE ... GMA01 or 1SS133
IC791 BA6810S AUDIO LEVEL METER DRIVER
L(1) LEVEL ADJ
R(1) LEVEL ADJ
B7183 DTC144EL MUTE
B7182 DTA114EL SWITCH
B7181 DTA114EL SWITCH
CN726
CN727
CN724
CN796
CN795
CN721
S7137 ALL CLEAR
SPECIAL SWITCH (PANEL SWITCH)
S7181
OFF — L.M. — HIFI TR
VR771 10K
SHARP — SOFT PICTURE
VR795 10K
VR796 10K REC VOLUME
H.P. JACK CN799
L7181 100μ
C7188 0.01
C7189 0.01
L7182 100μ
VR794 10K H.P. VOLUME
CN794(R)
H.P. LCH OUT
GND
H.P. RCH OUT
V REF
H.P. CTL
TO AD-A CN253
MIC JACK CN798
CN793
MIC SIG OUT
GND
BAL. VOL. REF
BAL CTL
MIC-TN/EXT
TO AD-1 CN261
R7191 1K
VR793 10K MIXING VOLUME
R7192 1K
TM-2

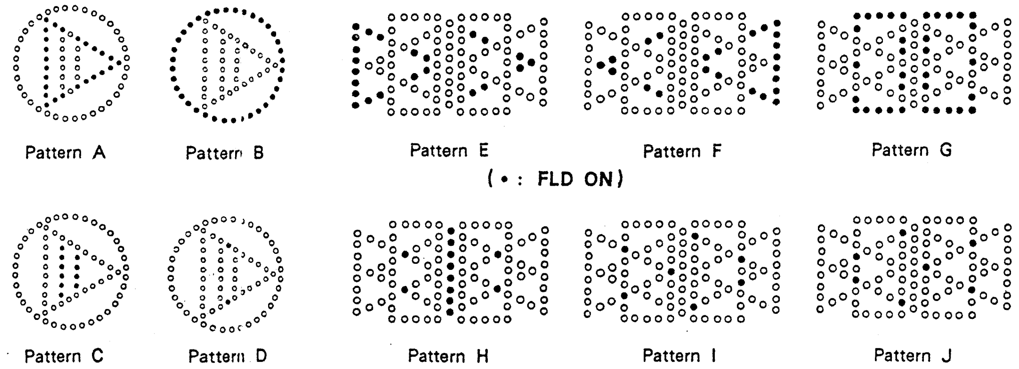
TM-2 P.C.B.


1AC4B10A46500B
TM-2 JCI-AuH
CN793
CN794
H.P. VR794
R7191 MIXING VR793
REC R VR796
REC VR795
MIC CN798
H.P. CN799
CN795
CN724
CN796
VR771 PICTURE
S7181 OFF L.M. HIFI TR
S7182 AUTO NICAM OFF
CN727
CN726
CN721

TM-1 P.C.B.


L-METER VR241
VR242
R-METER
A7101
IC712
IC791
IC711
X7101
X7102
CN711
CN712
CN713
CN715
CN716
CN717
CN791
CN792
CN797
OUT
VCC
1AC4B10A46400B
TM-1@JCI-AJH
LD. NO. 7101-
0 1 2 3 4 5 6 7 8 9

9GA: GRAPHIC MODE DISPLAY


Pattern A
Pattern B
Pattern E
Pattern F
Pattern G
Pattern C
Pattern D
Pattern H
Pattern I
Pattern J

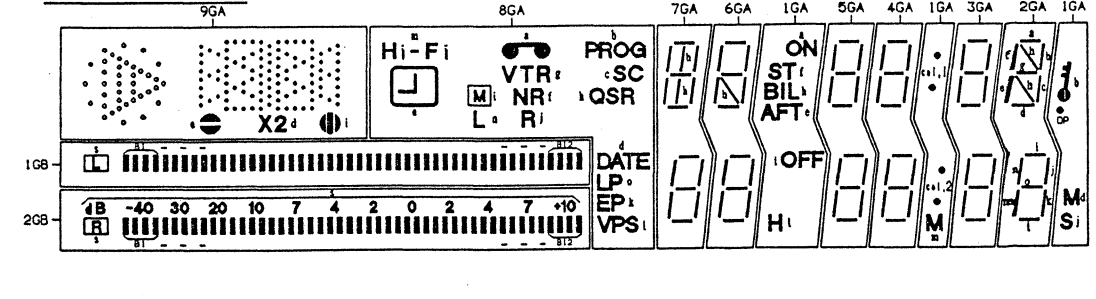
(• : FLD ON)

ANODE CONNECTION

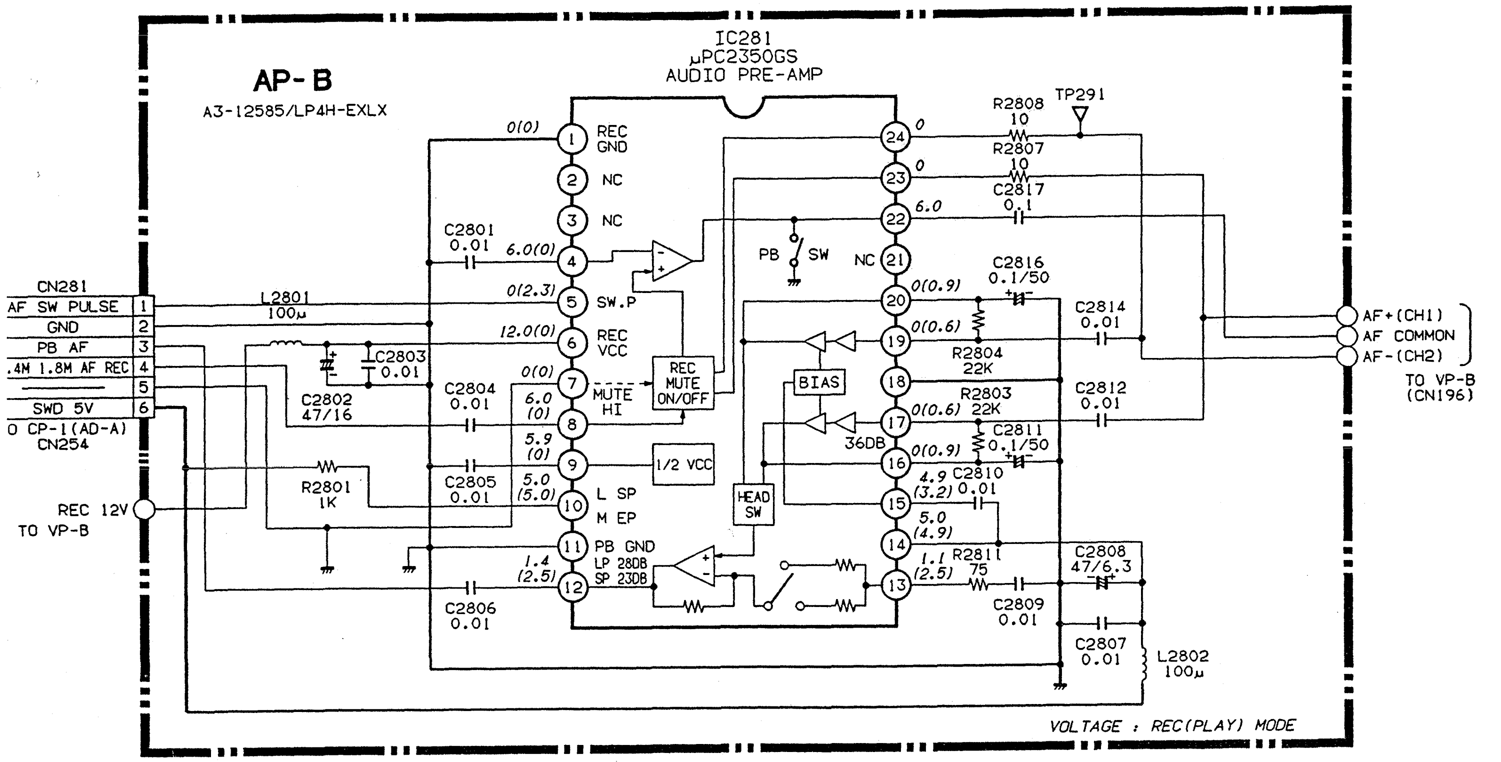
	9GA	8GA	7GA	6GA	5GA	4GA	3GA	2GA	1GA
a	B	●–●	a	a	a	a	a	a	ON
b	A	PROG	b	b	b	b	b	b	⫯
c	–	SC	c	c	c	c	c	c	DP
d	×2	DATE	d	d	d	d	d	d	M(1)
e	⊖	◰	e	e	e	e	e	e	AFT
f	C	NR	f	f	f	f	f	f	ST
g	D	VTR	g	g	g	g	g	g	col.1
h	–	QSR	⁄	⁄	–	–	–	⁄	BIL
i	(‖)	M	i	i	i	i	i	i	OFF
j	E	R	j	j	j	j	j	j	S
k	I	EP	k	k	k	k	k	k	–
l	H	VPS	l	l	l	l	l	l	H
m	J	Hi-Fi	m	m	m	m	m	m	M(2)
n	F	L	n	n	n	n	n	n	–
o	G	LP	o	o	o	o	o	o	col.2

	1GB	2GB
B1	▮▮▮▮	▮▮▮▮▮
B2	▮▮▮▮	▮▮▮▮▮
B3	▮▮▮▮	▮▮▮▮▮
B4	▮▮▮▮	▮▮▮▮▮
B5	▮▮▮▮	▮▮▮▮▮
B6	▮▮▮▮	▮▮▮▮▮
B7	▮▮▮▮	▮▮▮▮▮
B8	▮▮▮▮	▮▮▮▮▮
B9	▮▮▮▮	▮▮▮▮▮
B10	▮▮▮▮	▮▮▮▮▮
B11	▮▮▮▮	▮▮▮▮▮
B12	▮▮▮▮	▮▮▮▮▮
S	L	dB-+10 R

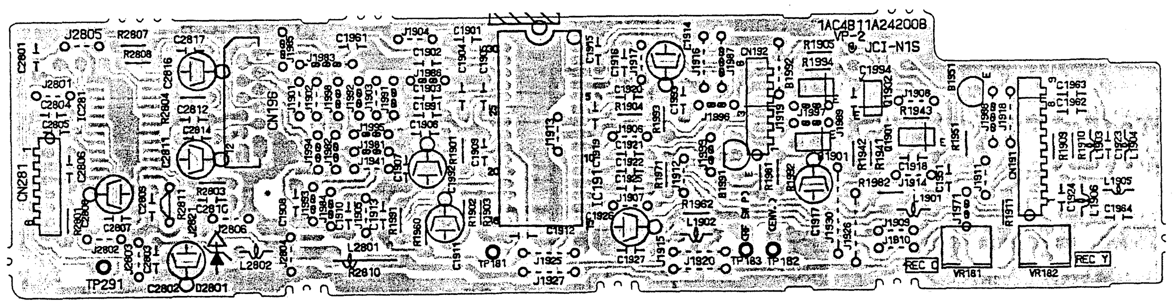
2 A7101 GRID ASSIGNMENT


9GA
8GA
7GA
6GA
1GA
5GA
4GA
1GA
3GA
2GA
1GA
Hi-Fi
PROG
VTR
SC
M
NR
QSR
L
R
X2
ON
ST
BIL
AFT
OFF
DATE
LP
EP
VPS
H
M
S
1GB
2GB
dB -40 30 20 10 7 4 2 0 2 4 7 +10
B1
B12

VP-2 BOARD (AP-B) AUDIO PRE-AMP CIRCUIT DIAGRAM


AP-B
A3-12585/LP4H-EXLX
IC281
μPC2350GS
AUDIO PRE-AMP
CN281
AF SW PULSE 1
GND 2
PB AF 3
.4M 1.8M AF REC 4
5
SWD 5V 6
O CP-1 (AD-A) CN254
REC 12V
TO VP-B
L2801 100μ
C2803 0.01
C2802 47/16
R2801 1K
C2801 0.01
C2804 0.01
C2805 0.01
C2806 0.01
0(0) 1 REC GND
2 NC
3 NC
6.0(0) 4
0(2.3) 5 SW.P
12.0(0) 6 REC VCC
0(0) 7
6.0 (0) 8 MUTE HI
5.9 (0) 9
5.0 (5.0) 10 L SP
M EP
11 PB GND
1.4 (2.5) 12 LP 28DB SP 23DB
REC MUTE ON/OFF
1/2 VCC
PB SW
BIAS
HEAD SW
36DB
NC
0 24
0 23
6.0 22
21
0(0.9) 20
0(0.6) 19
18
0(0.6) 17
0(0.9) 16
4.9 (3.2) 15
5.0 (4.9) 14
1.1 (2.5) 13
R2808 10
TP291
R2807 10
C2817 0.1
C2816 0.1/50
R2804 22K
R2803 22K
C2811 0.1/50
C2810 0.01
R2811 75
C2809 0.01
C2814 0.01
C2812 0.01
C2808 47/6.3
C2807 0.01
L2802 100μ
AF+(CH1)
AF COMMON
AF-(CH2)
TO VP-B (CN196)
VOLTAGE : REC(PLAY) MODE

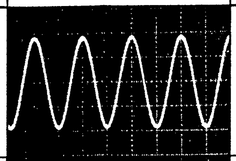
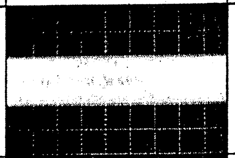
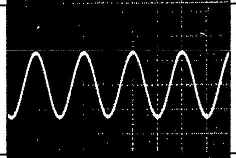
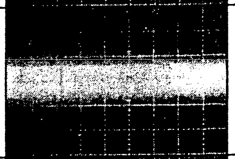
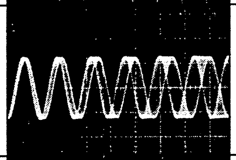
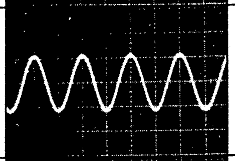
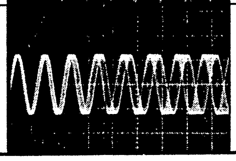
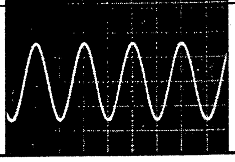
VP-2 P.C.B.


1AC4811A242008
VP-2
JCI-N1S
CN281
J2805
R2807
R2808
C2817
C2816
C2812
C2814
R2803
C2807
C2806
TP291
C2802
D2801
L2802
L2801
R2810
C2810
IC281
CN196
TP181
TP183
TP182
REC C
REC Y
VR181
VR182

2 3 4 5 6 7 8 9 10 11

WAVEFORM OF AUDIO

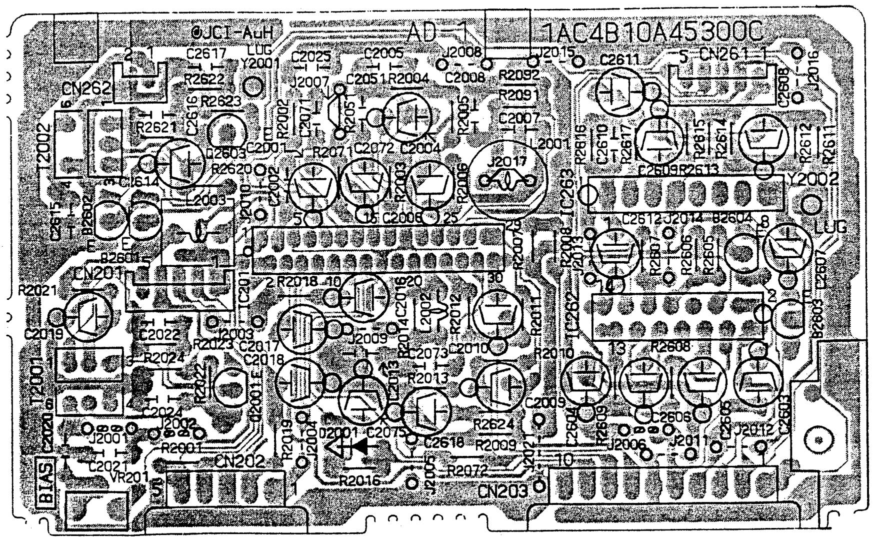
WF-A1

TEST LOCATION	WAVEFORM	MODE/LEVEL	TEST LOCATION	WAVEFORM	MODE/LEVEL
IC231 Pin 68 (L ch) and Pin 78 (R ch)		REC 0.7 Vp-p AV Input	CN254 Pin 4		REC 100m Vp-p 1.4M/1.8M AF REC
IC231 Pin 42 (L ch) Pin 23 (R ch)		REC 0.5 Vp-p Modulation Level	CN254 Pin 3		PB 1.5 Vp-p AF PB
IC231 Pin 38 L ch		REC 1.2 Vp-p 1.4MHz Carrier	IC231 Pin 56 (L ch) Pin 9 (R ch)		REC/PB 1.1 Vp-p AD Level
IC231 Pin 28 R ch		REC 1.2 Vp-p 1.8 MHz Carrier	IC231 Pin 47 (L ch) Pin 20 (R ch)		REC/PB 1.5 Vp-p Audio Output

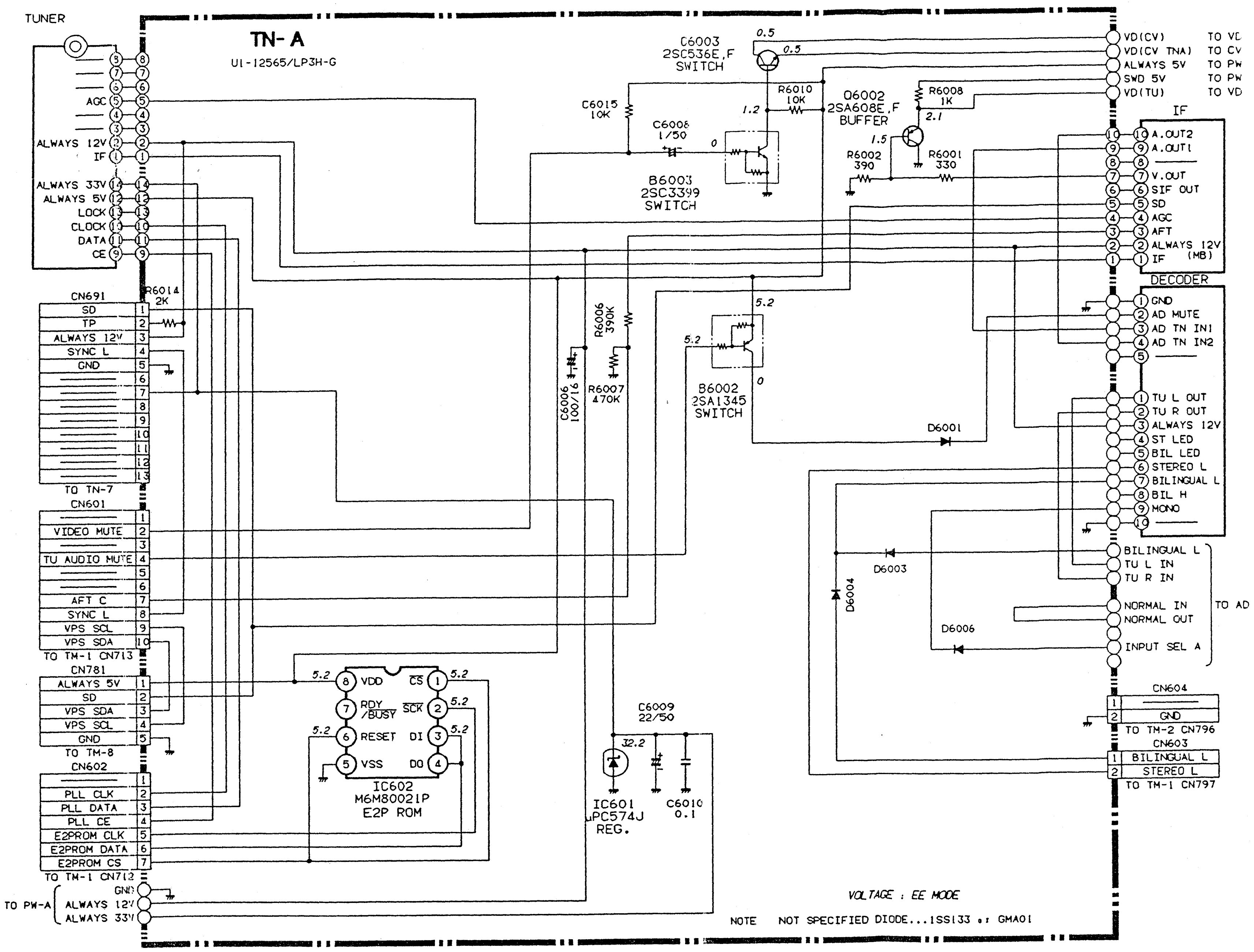
NOTE:

Audio input Condition is 1 KHz sine-wave signal from AV terminal.

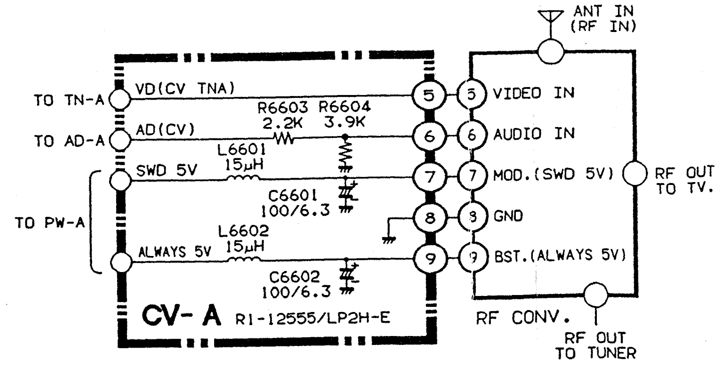
AD-1 P.C.B.


JCI-AuH
AD-1
1AC4B10A45300C
CN262
CN261
CN201
CN202
CN203
BIAS
VR201
LUG
T2001
T2002
J2017
L2001

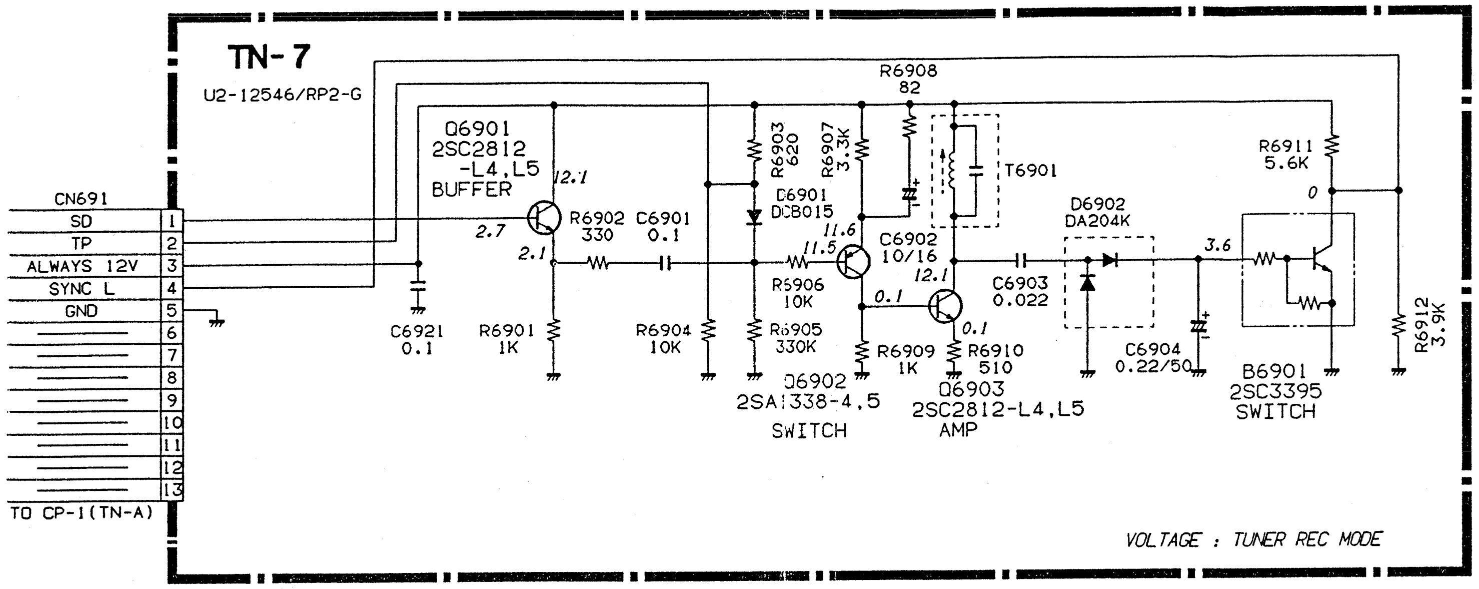
CP-1 BOARD (TN-A) TUNER IF CONNECTION CIRCUIT DIAGRAM


TUNER
TN- A
U1-12565/LP3H-G
AGC
ALWAYS 12V
IF
ALWAYS 33V
ALWAYS 5V
LOCK
CLOCK
DATA
CE
CN691
SD
TP
ALWAYS 12V
SYNC L
GND
TO TN-7
R6014
2K
CN601
VIDEO MUTE
TU AUDIO MUTE
AFT C
SYNC L
VPS SCL
VPS SDA
TO TM-1 CN713
CN781
ALWAYS 5V
SD
VPS SDA
VPS SCL
GND
TO TM-8
CN602
PLL CLK
PLL DATA
PLL CE
E2PROM CLK
E2PROM DATA
E2PROM CS
TO TM-1 CN712
TO PW-A
GND
ALWAYS 12V
ALWAYS 33V
C6003
2SC536E,F
SWITCH
0.5
0.5
C6015
10K
C6008
1/50
1.2
0
R6010
10K
B6003
2SC3399
SWITCH
Q6002
2SA608E,F
BUFFER
R6008
1K
2.1
1.5
R6002
390
R6001
330
VD(CV) TO VD
VD(CV TNA) TO CV
ALWAYS 5V TO PW
SWD 5V TO PW
VD(TU) TO VD
IF
A.OUT2
A.OUT1
V.OUT
SIF OUT
SD
AGC
AFT
ALWAYS 12V (MB)
IF
DECODER
GND
AD MUTE
AD TN IN1
AD TN IN2
TU L OUT
TU R OUT
ALWAYS 12V
ST LED
BIL LED
STEREO L
BILINGUAL L
BIL H
MONO
C6006
100/16
R6006
390K
R6007
470K
5.2
5.2
B6002
2SA1345
SWITCH
0
D6001
BILINGUAL L
TU L IN
TU R IN
NORMAL IN
NORMAL OUT
INPUT SEL A
TO AD
D6003
D6004
D6006
CN604
GND
TO TM-2 CN796
CN603
BILINGUAL L
STEREO L
TO TM-1 CN797
5.2 VDD
CS 5.2
RDY /BUSY
SCK 5.2
5.2 RESET
DI 5.2
VSS
DO
IC602
M6M80021P
E2P ROM
C6009
22/50
32.2
IC601
μPC574J
REG.
C6010
0.1
VOLTAGE : EE MODE
NOTE NOT SPECIFIED DIODE...1SS133 or GMA01

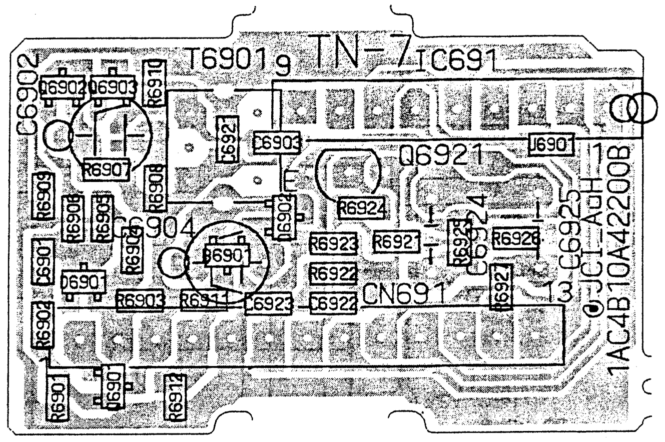
CP-1 BOARD (CV-A) RF CONVERTER CONNECTION CIRCUIT DIAGRAM


ANT IN
(RF IN)
TO TN-A
VD(CV TNA)
TO AD-A
AD(CV)
R6603 2.2K
R6604 3.9K
SWD 5V
L6601
15μH
TO PW-A
C6601
100/6.3
L6602
15μH
ALWAYS 5V
C6602
100/6.3
CV- A
R1-12555/LP2H-E
VIDEO IN
AUDIO IN
MOD.(SWD 5V)
GND
BST.(ALWAYS 5V)
RF OUT
TO TV.
RF CONV.
RF OUT
TO TUNER

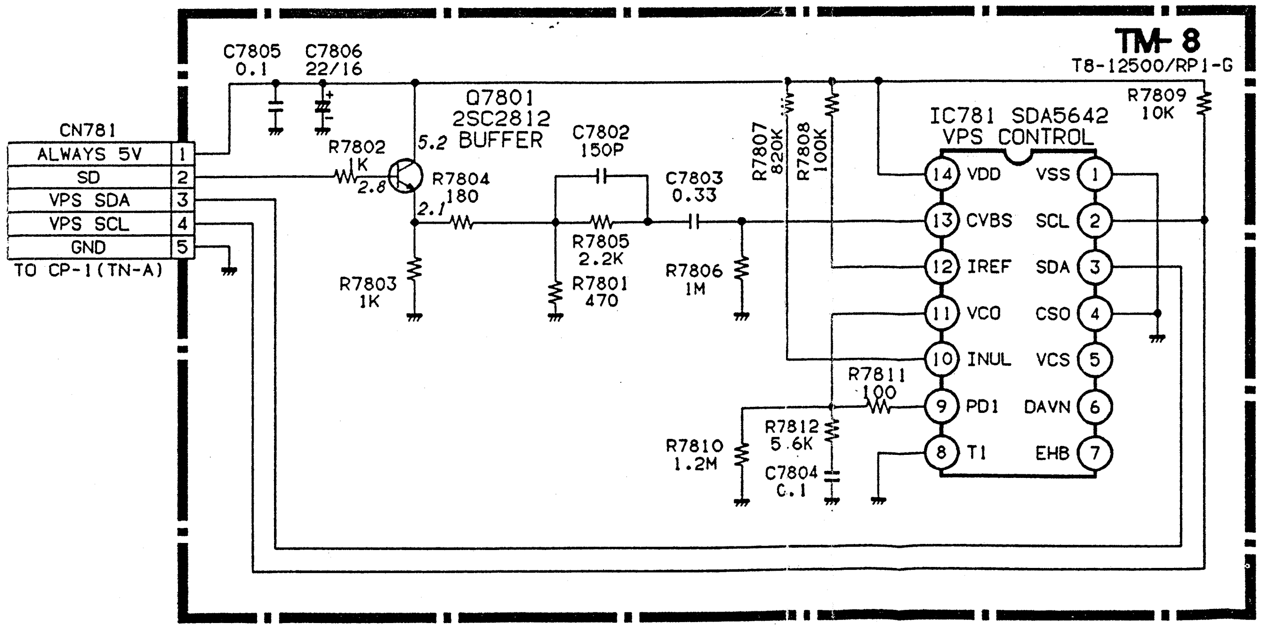
TN-7 BOARD SYNC DET. CIRCUIT DIAGRAM


TN-7
U2-12546/RP2-G
CN691
SD
TP
ALWAYS 12V
SYNC L
GND
1
2
3
4
5
6
7
8
9
10
11
12
13
TO CP-1(TN-A)
Q6901
2SC2812
-L4,L5
BUFFER
12.1
2.7
2.1
R6902 330
C6901 0.1
C6921 0.1
R6901 1K
R6904 10K
R6903 620
R6907 3.3K
R6908 82
D6901
DCB015
11.6
11.5
R6906 10K
R6905 330K
C6902 10/16
12.1
0.1
0.1
R6909 1K
R6910 510
Q6902
2SA1338-4.5
SWITCH
Q6903
2SC2812-L4,L5
AMP
T6901
D6902
DA204K
C6903 0.022
C6904 0.22/50
3.6
R6911 5.6K
0
B6901
2SC3395
SWITCH
R6912 3.9K
VOLTAGE : TUNER REC MODE

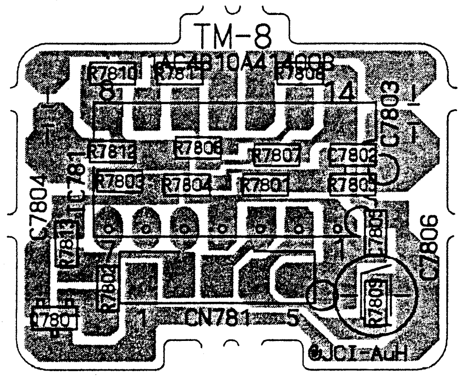
TN-7 P.C.B.


TN-7
T6901
IC691
C6902
Q6921
CN691
C6925
1AC4B10A42200B
JCI-AdH

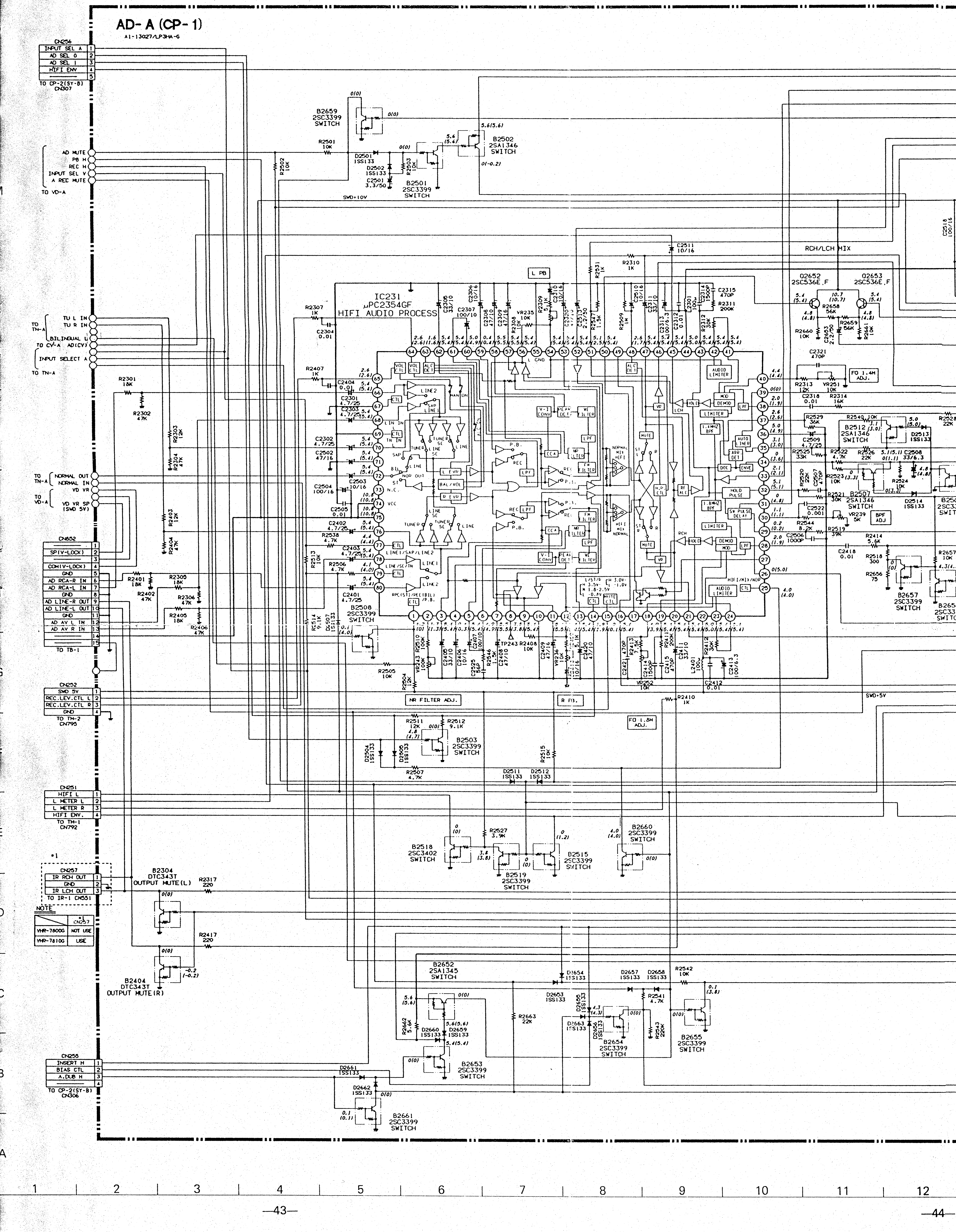
TM-8 BOARD VPS CIRCUIT DIAGRAM


TM-8
T8-12500/RP1-G
CN781
ALWAYS 5V
SD
VPS SDA
VPS SCL
GND
1
2
3
4
5
TO CP-1(TN-A)
C7805 0.1
C7806 22/16
Q7801
2SC2812
BUFFER
5.2
2.8
2.1
R7802 1K
R7804 180
R7803 1K
C7802 150P
R7805 2.2K
R7801 470
C7803 0.33
R7806 1M
R7807 820K
R7808 100K
R7809 10K
IC781 SDA5642
VPS CONTROL
VDD
CVBS
IREF
VCO
INUL
PD1
T1
VSS
SCL
SDA
CSO
VCS
DAVN
EHB
R7811 100
R7812 5.6K
R7810 1.2M
C7804 0.1

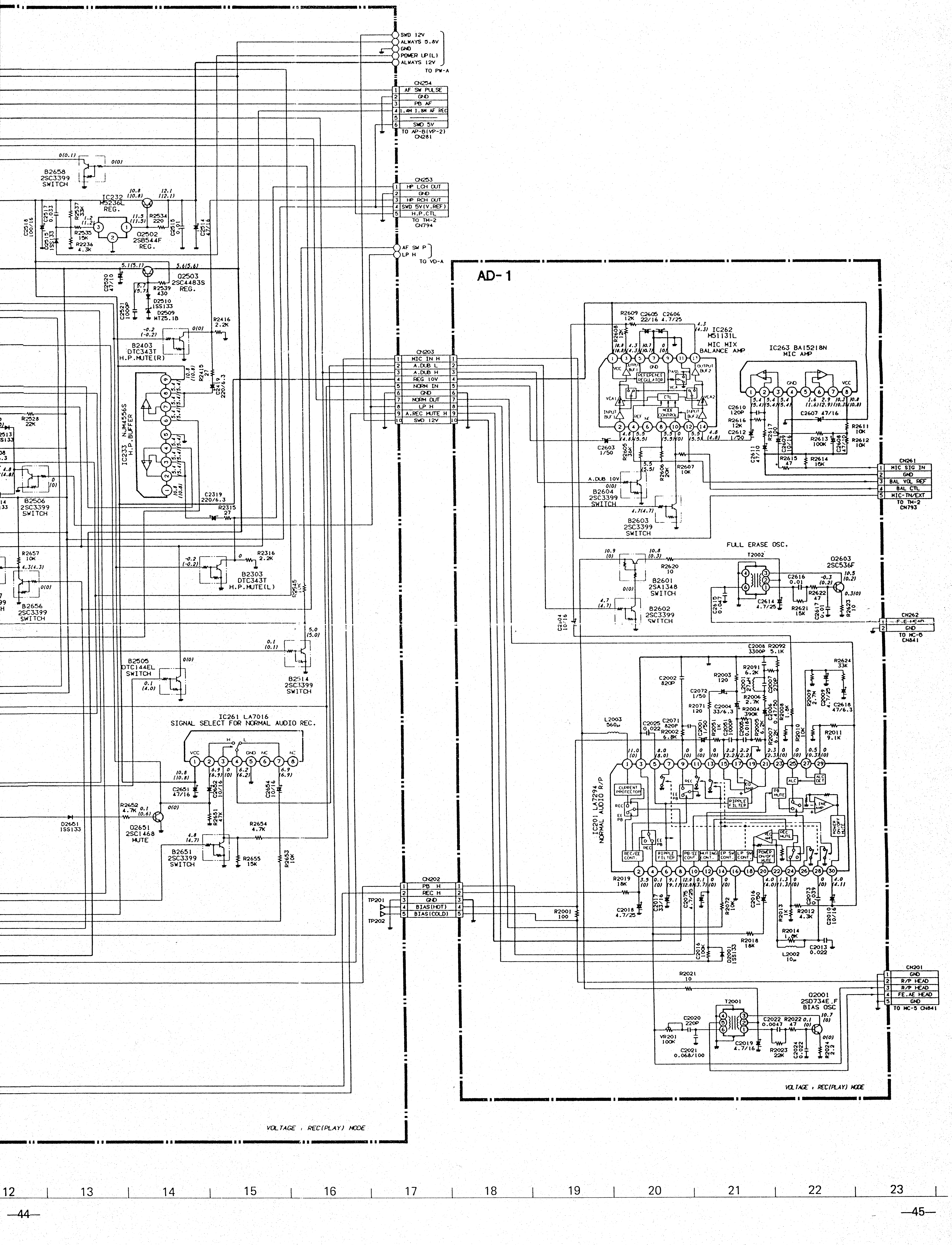
TM-8 P.C.B.


TM-8
IC781
CN781
C7803
C7804
C7806
JCI-AdH

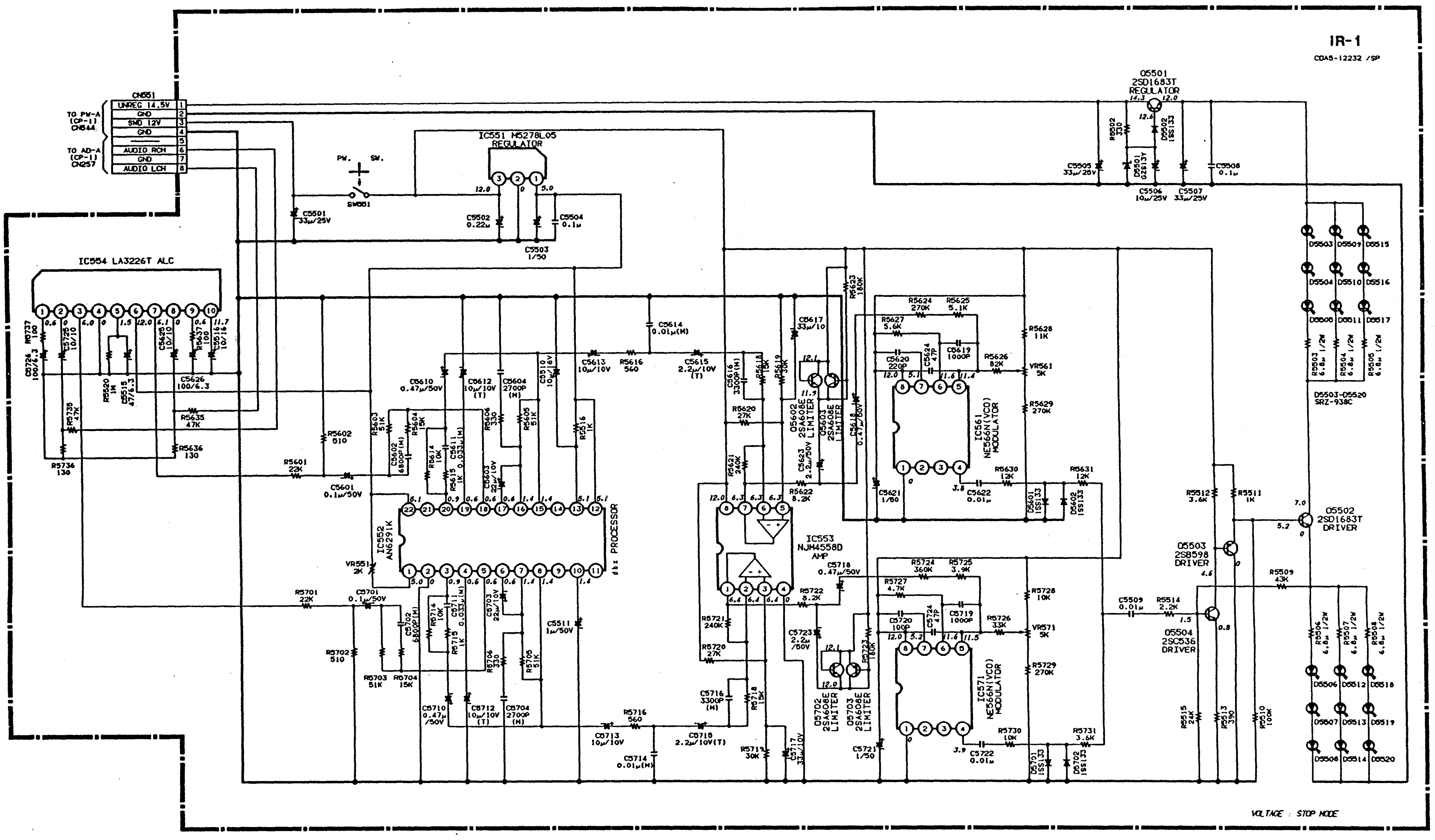
CP-1 BOARD (AD-A) HIFI AUDIO & AD-1 BOARD NO


AD-A (CP-1)
A1-13027/LP3HA-G
CN256
INPUT SEL A
AD SEL 0
AD SEL 1
HIFI ENV
TO CP-2(SY-B) CN307
AD MUTE
PB H
REC H
INPUT SEL V
A REC MUTE
TO VD-A
TU L IN
TU R IN
BILINGUAL L
TO CV-A AD(CV)
INPUT SELECT A
TO TN-A
NORMAL OUT
NORMAL IN
VD VR
VD VR SP (SWD 5V)
CN852
SP(V-LOCK)
COM(V-LOCK)
GND
AD RCA-R IN
AD RCA-L IN
AD LINE-R OUT
AD LINE-L OUT
AD AV L IN
AD AV R IN
TO TB-1
CN252
SWD 5V
REC.LEV.CTL L
REC.LEV.CTL R
TO TH-2 CN795
CN251
HIFI L
L METER L
L METER R
HIFI ENV.
TO TH-1 CN792
CN257
IR RCH OUT
IR LCH OUT
TO IR-1 CN551
NOTE
VHR-7800G NOT USE
VHR-7810G USE
CN255
INSERT H
BIAS CTL
A.DUB H
TO CP-2(SY-B) CN306
IC231
µPC2354GF
HIFI AUDIO PROCESS
B2659 2SC3399 SWITCH
B2502 2SA1346 SWITCH
B2501 2SC3399 SWITCH
B2508 2SC3399 SWITCH
B2503 2SC3399 SWITCH
B2304 DTC343T OUTPUT MUTE(L)
B2404 DTC343T OUTPUT MUTE(R)
B2518 2SC3402 SWITCH
B2519 2SC3399 SWITCH
B2515 2SC3399 SWITCH
B2660 2SC3399 SWITCH
B2652 2SA1345 SWITCH
B2653 2SC3399 SWITCH
B2654 2SC3399 SWITCH
B2655 2SC3399 SWITCH
B2661 2SC3399 SWITCH
B2657 2SC3399 SWITCH
B2512 2SA1346 SWITCH
B2507 2SA1346 SWITCH
Q2652 2SC536E,F
Q2653 2SC536E,F
RCH/LCH MIX
L PB
NR FILTER ADJ.
R PB
FO 1.8M ADJ.
FO 1.4M ADJ.
BPF ADJ
SWD+10V
SWD+5V
1 2 3 4 5 6 7 8 9 10 11 12
A B C D E F G M

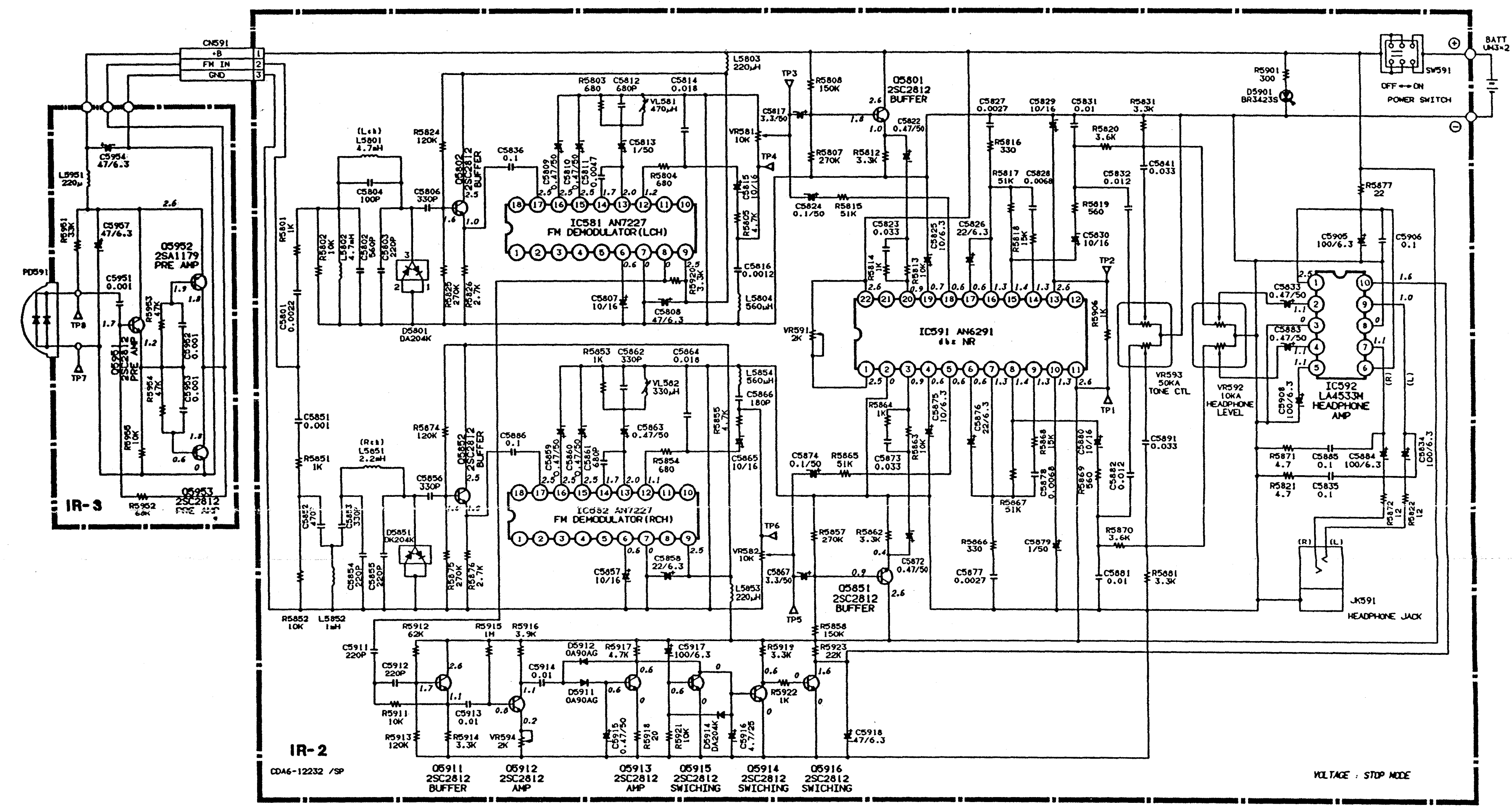
RD NORMAL AUDIO CIRCUIT DIAGRAM


SWD 12V
ALWAYS 5.8V
GND
POWER UP(L)
ALWAYS 12V
TO PW-A
CN254
AF SW PULSE
GND
PB AF
1.4M 1.8M AF REC
SWD 5V
TO AP-B(VP-2) CN281
CN253
HP LCH OUT
GND
HP RCH OUT
SWD 5V(V.REF)
H.P.CTL
TO TM-2 CN794
AF SW P
LP H
TO VD-A
B2658 2SC3399 SWITCH
IC232 M5236L REG.
Q2502 2SB544F REG.
Q2503 2SC4483S REG.
D2510 1SS133
D2509 MTZ5.1B
B2403 DTC343T H.P.MUTE(R)
IC233 NJM4556S H.P.BUFFER
B2506 2SC3399 SWITCH
B2656 2SC3399 SWITCH
B2303 DTC343T H.P.MUTE(L)
B2505 DTC144EL SWITCH
B2514 2SC3399 SWITCH
IC261 LA7016 SIGNAL SELECT FOR NORMAL AUDIO REC.
D2651 1SS133
Q2651 2SC1468 MUTE
B2651 2SC3399 SWITCH
VOLTAGE : REC(PLAY) MODE
CN203
MIC IN H
A.DUB L
A.DUB H
REG 10V
NORM IN
GND
NORM OUT
LP H
A.REC MUTE H
SWD 12V
CN202
PB H
REC H
GND
BIAS(HOT)
BIAS(COLD)
TP201
TP202
AD-1
IC262 M51131L MIC MIX BALANCE AMP
IC263 BA15218N MIC AMP
B2604 2SC3399 SWITCH
B2603 2SC3399 SWITCH
CN261
MIC SIG IN
GND
BAL VOL REF
BAL CTL
MIC-IN/EXT
TO TM-2 CN793
FULL ERASE OSC.
T2002
Q2603 2SC536F
B2601 2SA1348 SWITCH
B2602 2SC3399 SWITCH
CN262
F.E.+5.6
GND
TO MC-6 CN841
IC201 LA7294 NORMAL AUDIO R/P
CN201
GND
R/P HEAD
R/P HEAD
FE.AE HEAD
GND
TO MC-5 CN841
T2001
Q2001 2SD734E,F BIAS OSC
VR201 100K
D2001 1SS133
L2003 560μ
VOLTAGE : REC(PLAY) MODE
12
13
14
15
16
17
18
19
20
21
22
23

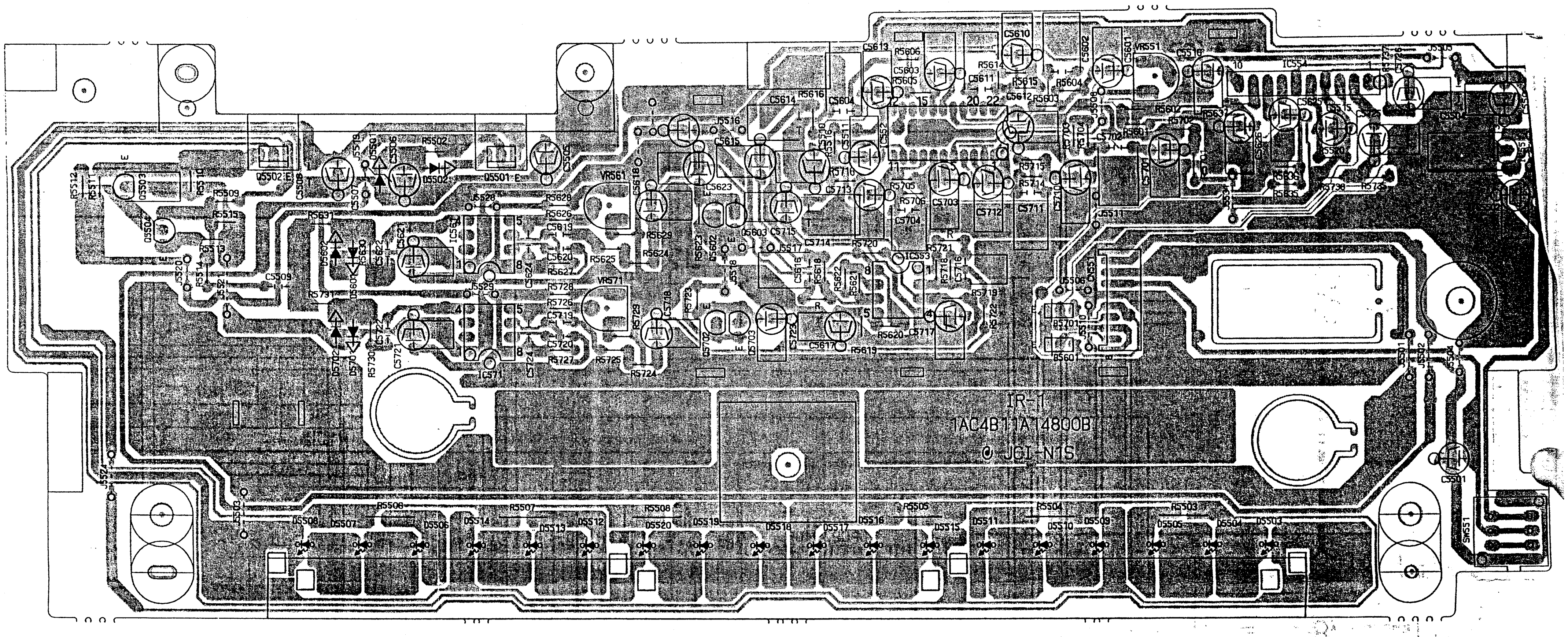
IR-1 BOARD IR SOUND TRANSMITTER CIRCUIT DIAGRAM (VHR-7810G ONLY)


IR-1
CDA5-12232 /SP
CN551
UNREG 14.5V
SW0 12V
GND
AUDIO RCH
AUDIO LCH
TO PW-A (CP-1) CN844
TO AD-A (CP-1) CN257
IC551 M5278L05 REGULATOR
PW. SW.
IC554 LA3226T ALC
IC552 AN6291K dbx PROCESSOR
IC553 NJM4558D AMP
IC561 NE566N(VCO) MODULATOR
IC571 NE566N(VCO) MODULATOR
Q5501 2SD1683T REGULATOR
Q5502 2SD1683T DRIVER
Q5503 2SB598 DRIVER
Q5504 2SC536 DRIVER
Q5602 2SA608E LIMITER
Q5603 2SA608E LIMITER
Q5702 2SA608E LIMITER
Q5703 2SA608E LIMITER
D5503-D5520 SRZ-938C
VOLTAGE : STOP MODE

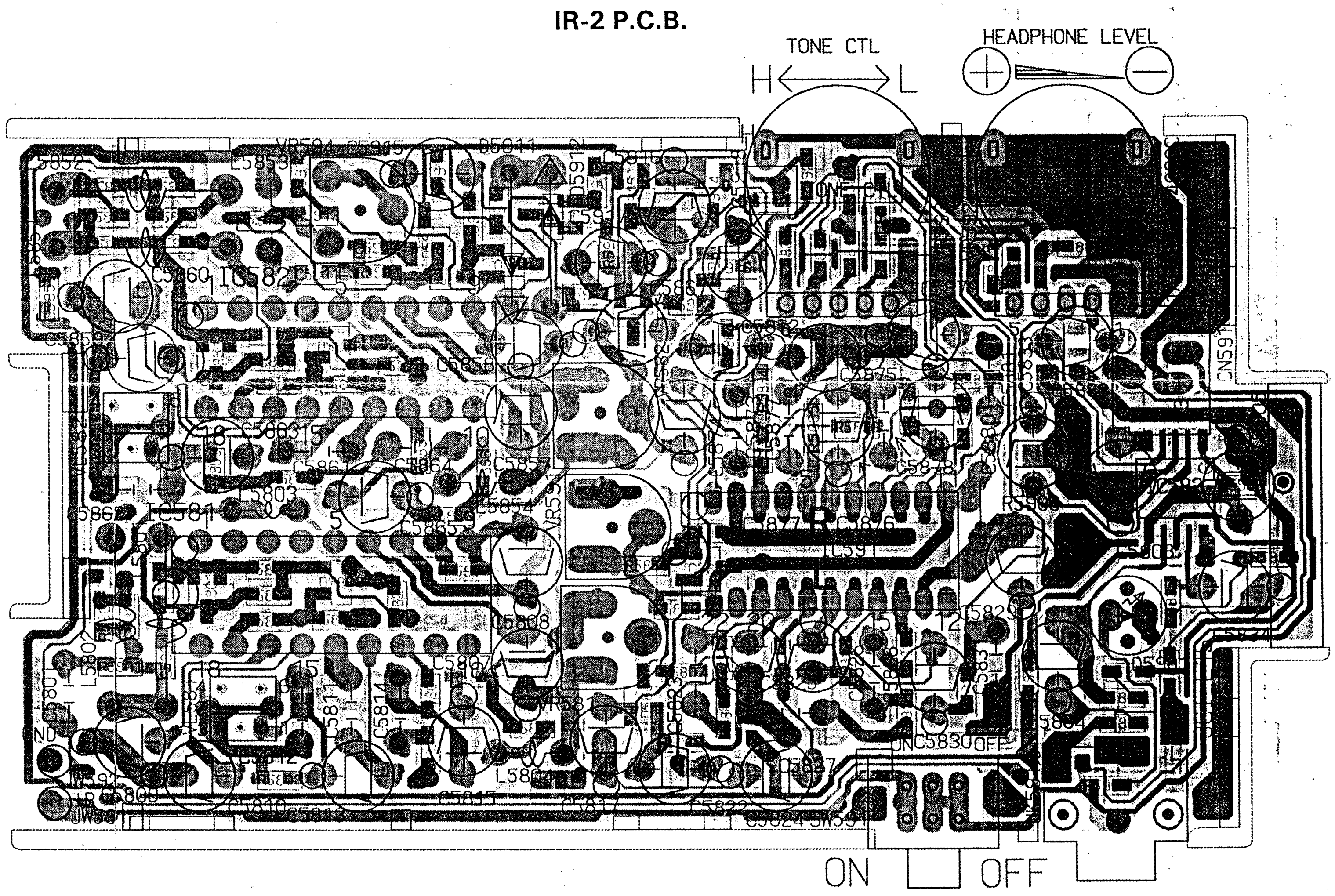
IR-2,3 BOARD IR SOUND RECEIVER CIRCUIT DIAGRAM (VHR-7810G ONLY)


CN591
+B
FM IN
GND
PD591
IR-3
Q5951 2SC2812 PRE AMP
Q5952 2SA1179 PRE AMP
Q5953 2SC2812
IC581 AN7227 FM DEMODULATOR(LCH)
IC582 AN7227 FM DEMODULATOR(RCH)
IC591 AN6291 dbx NR
IC592 LA4533M HEADPHONE AMP
Q5801 2SC2812 BUFFER
Q5802 2SC2812 BUFFER
Q5851 2SC2812 BUFFER
Q5852 2SC2812 BUFFER
VR593 50KA TONE CTL
VR592 10KA HEADPHONE LEVEL
JK591 HEADPHONE JACK
BATT UM3×2
SW591
OFF ←→ ON
POWER SWITCH
D5901 BR3423S
IR-2
CDA6-12232 /SP
Q5911 2SC2812 BUFFER
Q5912 2SC2812 AMP
Q5913 2SC2812 AMP
Q5915 2SC2812 SWICHING
Q5914 2SC2812 SWICHING
Q5916 2SC2812 SWICHING
VOLTAGE : STOP MODE

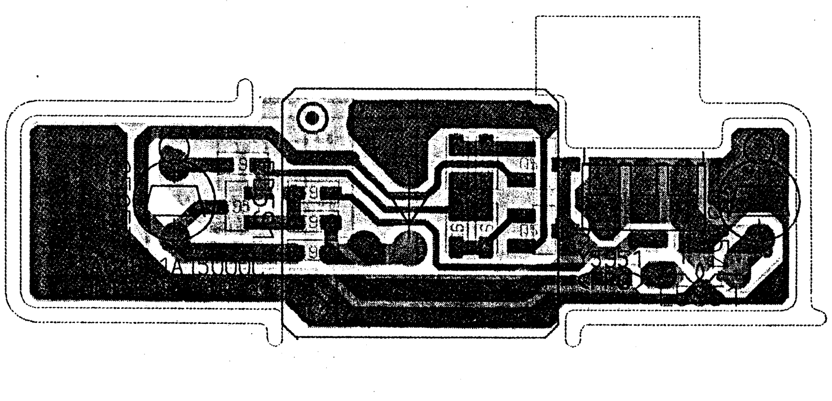
IR-1 P.C.B.


IR-1
1AC4B11A14800B
JGI-N1S
VR561
VR571
IC551
SW551

IR-2 P.C.B.

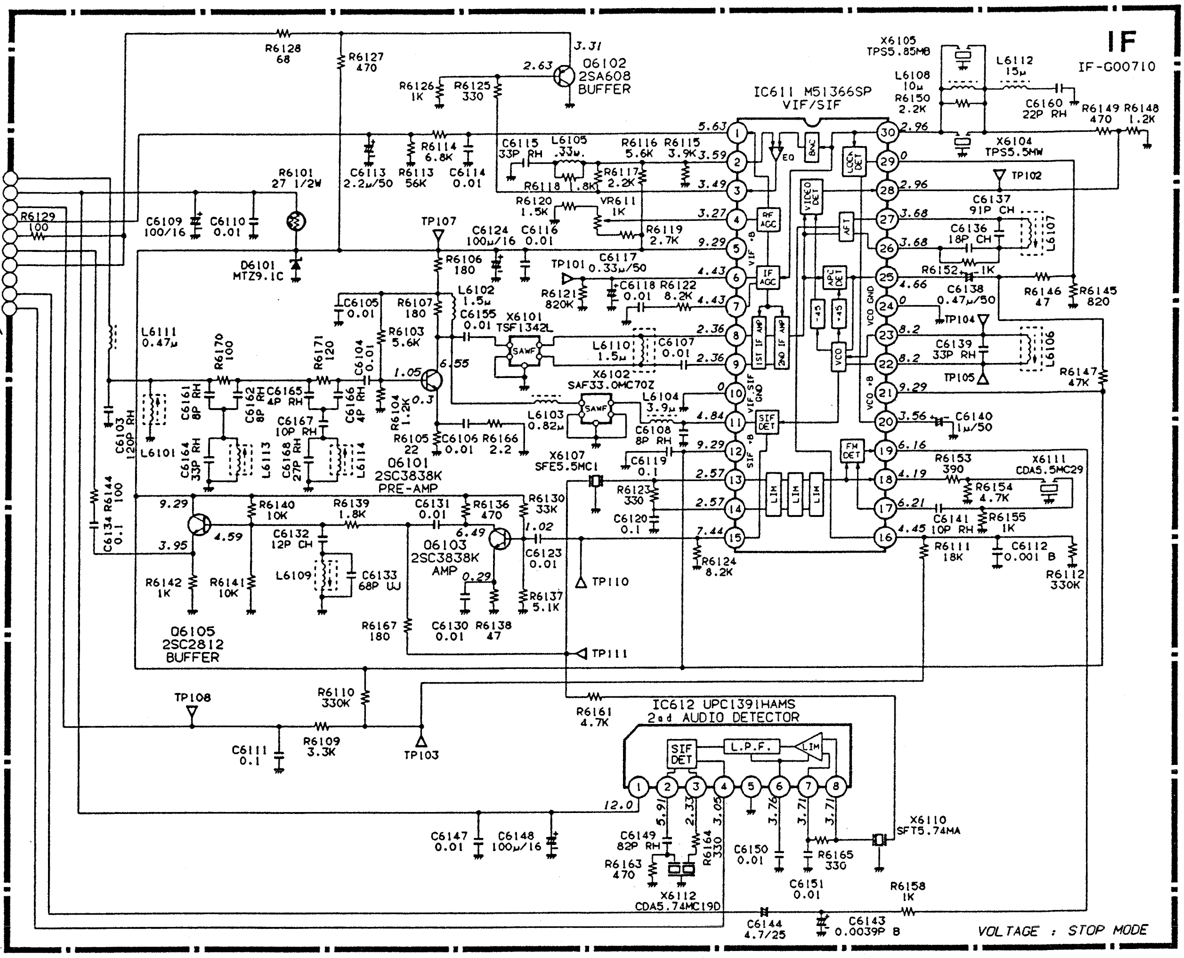

TONE CTL
H
L
HEADPHONE LEVEL
+
−
ON
OFF
IC591
CN591
IC581
IC582

IR-3 P.C.B.

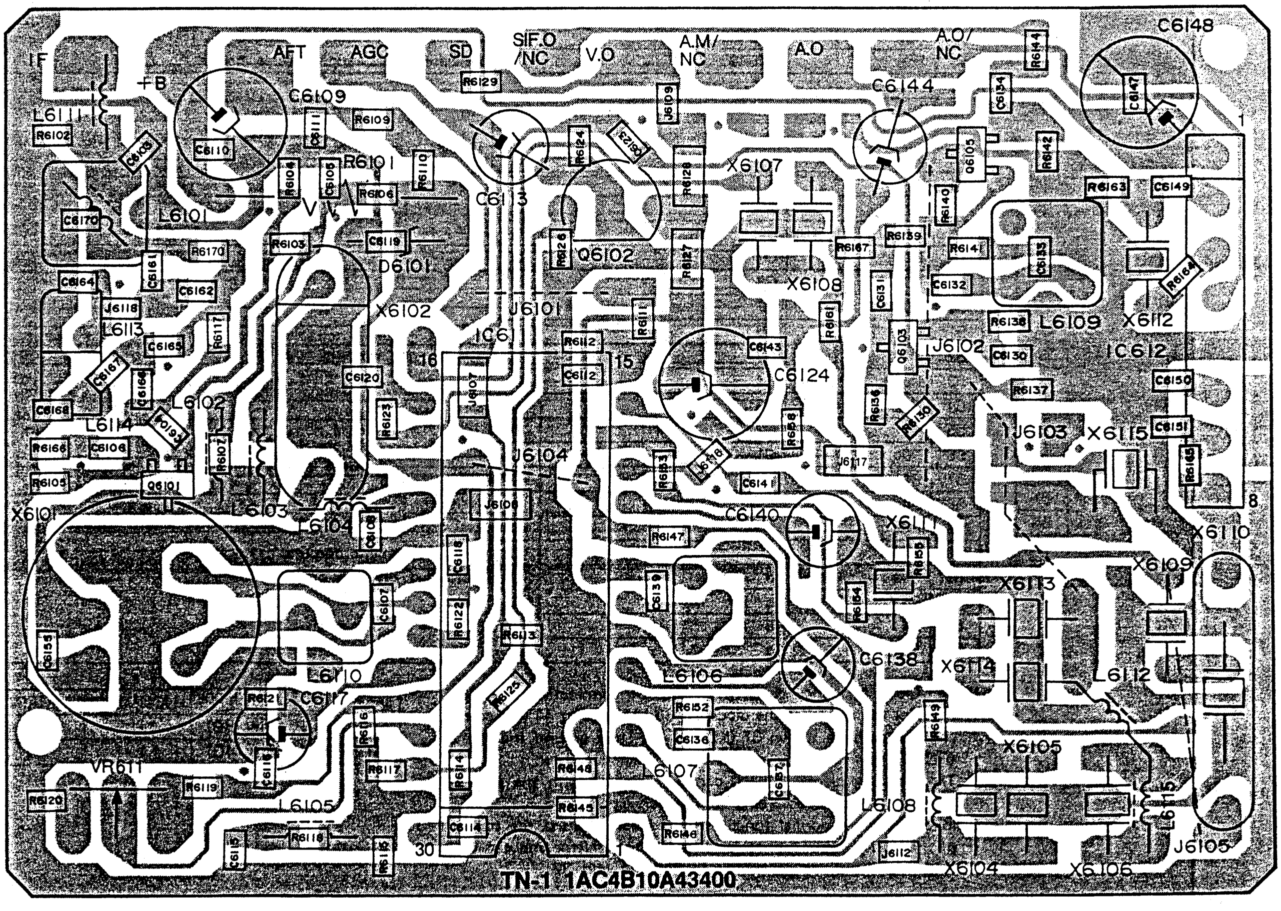


| 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 2 |

IF CIRCUIT DIAGRAM

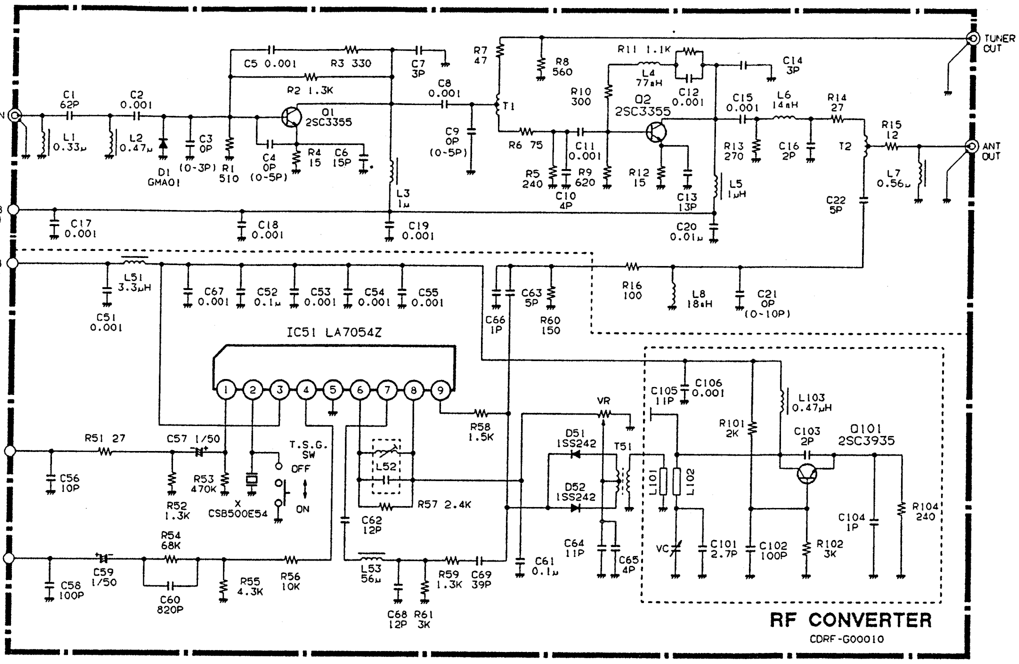

IF
IF-G00710
IC611 M51366SP VIF/SIF
IC612 UPC1391HAMS 2nd AUDIO DETECTOR
Q6102 2SA608 BUFFER
Q6101 2SC3838K PRE-AMP
Q6103 2SC3838K AMP
Q6105 2SC2812 BUFFER
D6101 MTZ9.1C
X6101 TSF1342L
X6102 SAF33.0MC70Z
X6105 TPS5.85MB
X6104 TPS5.5MW
X6107 SFE5.5MC1
X6110 SFT5.74MA
X6111 CDA5.5MC29
X6112 CDA5.74MC19D
IF
MB
AFT
AGC
SD
SIF.OUT
V.OUT
NC
A.OUT1
A.OUT2
TO TN-A
TP101
TP102
TP103
TP104
TP105
TP107
TP108
TP110
TP111
VOLTAGE : STOP MODE

IF P.C.B.

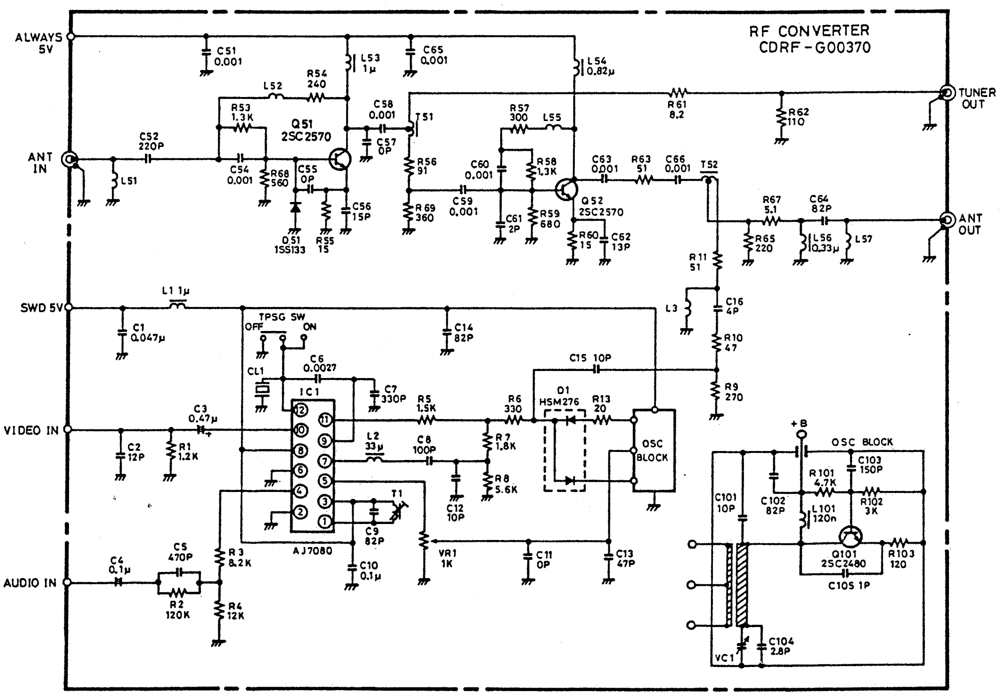

IF
+B
AFT
AGC
SD
SIF.O /NC
V.O
A.M/ NC
A.O
A.O/ NC
IC611
IC612
Q6101
Q6102
Q6103
Q6105
D6101
VR611
TN-1 1AC4B10A43400

2 3 4 5 6 7 8 9

RF CONVERTER CIRCUIT DIAGRAM


ANT IN
BOOSTER+B (ALWAYS 5V)
MODULATOR+B (SWD 5V)
VD IN
AD IN
TUNER OUT
ANT OUT
C1 62P
C2 0.001
L1 0.33μ
L2 0.47μ
D1 GMA01
C3 0P (0-3P)
R1 510
C4 0P (0-5P)
R4 15
C6 15P
C5 0.001
R3 330
R2 1.3K
Q1 2SC3355
C7 3P
C8 0.001
C9 0P (0-5P)
L3 1μ
R7 47
T1
R8 560
R10 300
R11 1.1K
L4 77nH
C12 0.001
Q2 2SC3355
C14 3P
C15 0.001
L6 14nH
R14 27
R15 12
L7 0.56μ
R6 75
C11 0.001
R5 240
R9 620
C10 4P
R12 15
C13 13P
L5 1μH
R13 270
C16 2P
T2
C22 5P
C17 0.001
C18 0.001
C19 0.001
C20 0.01μ
L51 3.3μH
C51 0.001
C67 0.001
C52 0.1μ
C53 0.001
C54 0.001
C55 0.001
C66 1P
C63 5P
R60 150
R16 100
L8 18nH
C21 0P (0-10P)
IC51 LA7054Z
1 2 3 4 5 6 7 8 9
R51 27
C57 1/50
C56 10P
R53 470K
R52 1.3K
X CSB500E54
T.S.G. SW
OFF
ON
L52
R58 1.5K
C62 12P
R57 2.4K
VR
D51 1SS242
D52 1SS242
T51
C64 11P
C65 4P
C61 0.1μ
R54 68K
C59 1/50
C58 100P
C60 820P
R55 4.3K
R56 10K
L53 56μ
C68 12P
R61 3K
R59 1.3K
C69 39P
C105 11P
C106 0.001
L103 0.47μH
R101 2K
C103 2P
Q101 2SC3935
L101
L102
C104 1P
R104 240
VC
C101 2.7P
C102 100P
R102 3K
RF CONVERTER
CDRF-G00010

Note: Either one of these RF converters, type CDRF-G00010 or CDRF-G00370 is used, depending on availability.


RF CONVERTER
CDRF-G00370
ALWAYS 5V
ANT IN
SWD 5V
VIDEO IN
AUDIO IN
TUNER OUT
ANT OUT
C51 0.001
L53 1μ
C65 0.001
L54 0.82μ
L52
R54 240
R53 1.3K
Q51 2SC2570
C58 0.001
C57 0P
T51
C52 220P
L51
C54 0.001
R68 560
C55 0P
C56 15P
D51 1SS133
R55 15
R57 300
L55
R56 91
C60 0.001
R58 1.3K
R69 360
C59 0.001
C61 2P
R59 680
Q52 2SC2570
R60 15
C62 13P
C63 0.001
R63 51
C66 0.001
T52
R61 8.2
R62 110
R67 5.1
C64 82P
R65 220
L56 0.33μ
L57
R11 51
L3
C16 4P
R10 47
R9 270
L1 1μ
C1 0.047μ
TPSG SW
OFF
ON
C14 82P
C6 0.0027
CL1
IC1
C7 330P
R5 1.5K
R6 330
D1 HSM276
R13 20
C15 10P
OSC BLOCK
C3 0.47μ
C2 12P
R1 1.2K
L2 33μ
C8 100P
R7 1.8K
R8 5.6K
C12 10P
T1
C9 82P
AJ7080
VR1 1K
C11 0P
C13 47P
C10 0.1μ
C4 0.1μ
C5 470P
R2 120K
R3 8.2K
R4 12K
+B
OSC BLOCK
C103 150P
R101 4.7K
R102 3K
C101 10P
C102 82P
L101 120n
Q101 2SC2480
R103 120
C105 1P
C104 2.8P
VC1

IC301 (μPD75516GF) SYSTEM CONTROL MPU PIN FUNCTIONS TABLE

NO.	Name	I/O	I/O Signal Function
1	$\overline{\text{TAPE END.S}}$	I	Sensor signal input for tape end detection.
2	A/D REF	I	Reference voltage input for internal A/D conversion circuit. (5 Vdc)
3	VDD		IC power supply input. (5 Vdc)
4	VDD		IC power supply input. (5 Vdc)
5	NOISE ADVANCE P.	O	Pulse for noise band advance in STILL mode.
6	INSERT HIGH	O	"HIGH" output in video signal insert mode. (Models equipped with FE heads.)
7	AF REC	O	"HIGH" output in video signal insert mode, signal to activate FE head.
8	A.DUB	O	"HIGH" output in audio dubbing mode.
9	AUDIO SEL.R	O	Output select signal for stereo audio signals. (ST/L/R/NORMAL).
10	AUDIO SEL.L		
11	INPUT SEL.V	O	Signal for selecting video input signal. (TUNER/EXTERNAL/S.C.)
12	INPUT SEL.A	O	Signal for selecting audio input signal. (TUNER/EXTERNAL/S.C.)
13	S-VHS AUTO/$\overline{\text{OFF}}$	I	S-VHS auto mode selection terminal.
14	BIAS CONTROL	O	Signal for switching full-width erasing head OFF when "HIGH" and ON when "LOW".
15	A REC MUTE	O	Signal to disable output or recording of NORMAL audio.
16	A MUTE	O	Signal to disable audio signal output.
17	NORMAL/$\overline{\text{S-VHS}}$	I	NORMAL (VHS) /S-VHS selection terminal. Normal VHS when "HIGH".
18	$\overline{\text{SV S.DATA}}$	O	Outputs 8-bit × 4 serial data giving operation mode and tracking data, etc., to digital servo IC. CLK is its clock pulse.
19	$\overline{\text{SV S.CLK}}$		
20	4K-PWM	O	Outputs 4 kHz PWM signal for set period at start of high-speed FF/REW.
21	REV HIGH	O	Signal giving skew correction in LP SEARCH mode. (PAL models only)
22	–	–	
23	VD REC	O	Signal indicating recording of video signal in insert mode. (Models equipped with FE head only)
24	FE CONTROL	O	Signal indicating operation of FE head in insert mode. (Models equipped with FE head only)
25	TITL REC	O	Title insert mode indication signal.
26	SPECIAL PLAY	O	Output in special playback modes (R/L-SEARCH, × 2S, STILL, SLOW, F-ADVANCE, A-DUB PAUSE).
27	$\overline{\text{REC}}$	O	Recording indication signal.
28	$\overline{\text{STILL + SLOW}}$	O	"LOW" output in STILL/SLOW mode for control on-screen IC.
29	ANT/$\overline{\text{VIDEO}}$	O	Antenna through or video deck RF output select (Video when LOW).
30	P.B. HIGH	O	Signal indicating playback image output.
31	FF + REW	O	"HIGH" output during FF or REW mode.
32	POWER UP	O	"HIGH" output except when power is off. Indicates that power is ON.
33	GND		IC ground terminal.
34	$\overline{\text{SAFETY SW}}$	I	Input terminal for accidental erasure prevention switch. No operating to recording mode while "LOW" is input.
35	$\overline{\text{SW DATA 3}}$	I	3-bit signal indicating operation position of mechanism.
36	$\overline{\text{SW DATA 2}}$		
37	$\overline{\text{SW DATA 1}}$		
38	–	–	Pull-up (5 Vdc)
39	FL START SW	I	Switch input indicating start of cassette loading or discharge by front mechanism.
40	60 PWM	O	PWM signal output at high speed FF/REW mode.
41	H.SPEED • SEARCH + FF + REW	O	"HIGH" output during SEARCH, FF and REW at high speed mode.
42	AV CONTROL (8PIN)	O	AV terminal (21PIN SOCKET) control signal output.
43	ATR SMPL P	O	Sampling pulse output during auto-tracking operation. (For ATR evaluation)
44	MC-BR	O	Brake signal for capstan motor.
45	MC-F/R	O	Indication signal for capstan motor rotation direction.
46	INSERT $\overline{\text{ON}}$/OFF	I	INSERT function ON/OFF terminal. Function enabled when "LOW".
47	C-FG P.	I	FG pulse input for capstan motor. Signal with frequency of approximately 1 kHz is recognized.
48	T.REEL P.	I	Pulse input for detection of take-up reel table rotation.
49	CTL P.(0/1 CLK)	I	CTL head recording/playback pulse signal input.
50	S.REEL P.	I	Pulse input for detection of supply reel table rotation.
51	$\overline{\text{SSB DATA}}$	I/O	Terminals for communication of mode data with other microprocessors. Data is 8-bit × 12 block serial data.
52	$\overline{\text{SSB CLK}}$	O	The clock pulse is output from this microcomputer.
53	RF SW P.	I	Input of RF switching pulse created by head drum PG.
54	GND	–	IC ground terminal.
55	GND	–	Not used (grounded)
56	–	–	Not used
57	GND	–	IC ground terminal.
58	X1	–	IC clock OSC terminal. Clock frequency is 4 MHz.
59	X2	–	
60	$\overline{\text{RESET}}$	I	Initial reset terminal for IC. Reset when "LOW".
61	0/1 DATA	I	CTL head recording/playback pulse signal input. Used for VISS data detection.
62	ATR $\overline{\text{ON}}$/OFF	I	Auto tracking operation ON/OFF indication signal input. ATR ON when LOW.
63	ENV SW (DOC P.)	I	Video head envelope selection signal input. Used for absorbing (DOC PULSE) STILL noise.
64	–	–	
65	LP HIGH	O	"HIGH" output when tape speed is set to LP mode.
66	LP V • MUTE	O	"HIGH" video mute signal output when tape speed in set to LP mode.
67	–	–	
68	–	–	
69	ML-M	O	Loading motor rotational speed (medium speed) indication signal.
70	ML-L	O	Loading motor rotational speed (low speed) indication signal.
71	ML-R	O	Loading motor rotational direction (REV) indication signal.
72	ML-F	O	Loading motor rotational direction (FWD) indication signal.
73	GND	–	IC ground terminal.
74	JPN/US/PAL	I	Terminal to alter internal specifications for destination areas. (0V input for SP only models, 0.6V input for SP/LP models.)
75	TAPE SPEED	I	Input of result of tape speed determination by digital servo IC.
76	OEM OPTION	I	Terminal to alter internal specifications. (0V input)
77	Hi-Fi ENV	I	AF head envelope detection signal input. (Used for ATR of Hi-Fi models)
78	ENV	I	Video head envelope detection signal input. (Used for ATR)
79	DEW S.	I	Dew sensor input terminal.
80	$\overline{\text{TAPE TOP S.}}$	I	Sensor signal input for tape beginning detection.

P75516-0

IC351 (LC7418) DIGITAL SERVO IC PIN FUNCTIONS TABLE

Pin No.	I/O Terminal Name	I/O	Input/Output Function
1	ROTARY	O	Outputs the head switching control signal for 4-head and 3-head models.
2	H-AMP-SW	O	
3	RF-SW-PULSE	O	Video head switching pulse output.
4	AF-SW-PULSE	O	Audio head (FM) switching pulse output.
5	DL1	I	Dummy V_D insertion position control CR.
6	DL2	I	Dummy V_D insertion position control terminal.
7	CTL-IN	I	Control signal input.
8	REMAK	O	Outputs the control signal re-recording control signal. Three-value output (H, M, L).
9	REC-CTL	O	Recording control signal output. Three-value output (H, OPEN, L).
10	D-P	O	Outputs the drum compensation pulse in the slow mode.
11	D-PG. MM	I	CR for drum PG signal delay.
12	D-PG	I	Drum PG signal input.
13	D-FG	I	Drum FG signal input.
14	DSE	O	Outputs the speed error for drum system speed control. An output making the drum motor stop is delivered when DRUM-ON is "0". The lower three bits of the output data forms R-2R ladder network and the 4th bits for DAC (D/A Converter) and upper 5th to 8th bits for PWM (Pulse Width Modulation).
15	FHE	O	Outputs the horizontal sync signal of the composite sync signal after F-V conversion (using the drum phase control system). The lower three bits of the output data forms R-2R ladder network and the 4th bits for DAC (D/A Converter) and upper 5th to 8th bits for PWM (Pulse Width Modulation).
16	DPE		Error output for drum system phase control. The lower three bits of the output data forms R-2R ladder network and the 4th bits for DAC (D/A Converter) and upper 5th to 8th bits for PWM (Pulse Width Modulation).
17	C-P	O	Outputs the capstan compensation pulse in the slow mode.
18	C-START/STP	O	Outputs the capstan motor start and brake pulses in the slow mode.
19	V_{DD}		+ 5V ± 10%
20	CSE	O	Capstan system speed error output. An output making the capstan motor stop is delivered when CAP-ON is "0". The lower three bits of the output data forms R-2R ladder network and the 4th bits for DAC (D/A Converter) and upper 5th to 8th bits for PWM (Pulse Width Modulation).
21	CPE	O	Capstan system phase reciprocal error output. The lower three bits of the output data forms R-2R ladder network and the 4th bits for DAC (D/A Converter) and upper 5th to 8th bits for PWM (Pulse Width Modulation).
22	$\overline{\text{F}}$/R	O	Capstan motor forward/reverse control output. "1" sets the reverse mode, and "0" the forward mode.
23	C-FG1	I	Capstan FG signal input.
24	C-FG2	I	2nd capstan FG signal input. Used for stop detection in the intermittent slow mode.
25	EP/LP/SP	O	Recording mode output. Three-value output ("H" is for EP mode, "M" for LP mode and "L" for SP mode).
26	$\overline{\text{SP}}$	O	Recording mode output. "L" is for SP mode.
27	SP	O	Recording mode output. "H" is for SP mode.
28	MC-BR	I	Control input for capstan brake timing.
29	SLOW-TRK-CR	I	CR for slow tracking adjustment.
30	TRK-CR	I	CR for tracking adjustment.
31	D-PH	I	CR for drum compensation timing adjustment in the slow mode.
32	D-WD1	I	
33	D-WD2	I	
34	REF-TRK	O	Outputs the tracking delay input signal.
35	SLOW/STILL	O	Internal mode signal output. "H" in the slow mode.
36	MODE (× 2+STILL)	O	Mode decoding signal output. At the × 2 SPEED mode and starting time of SLOW/STILL mode, output "H" level.
37	INDEX-CLK	O	Outputs the timing for the control signal duty detector.
38	INDEX-DATA	O	Outputs the control signal duty detection results.
39	SV-S • CLK	I	Serial transmission clock pulse input.
40	SV-S • DATA	I	Serial data input terminal.
41	NTSC/$\overline{\text{PAL}}$	I	NTSC/PAL switching input. "H" is for NTSC, "L" for PAL.
42	REF	O	Outputs the internal reference signal.
43	V_{DD}		+ 5V supply terminal
44	FSC IN	I	Input for the IC internal system clock pulse. A level of at least 0.3 Vp-p is required. The color subcarrier signal is input by capacitive coupling.
45	V_{SS}		Ground
46	C-SYNC	I	Composite sync signal input.
47	ENV SW	I	Head selection signal (PB envelope detection signal) input for 4-head special playback.
48	VD	O	Dummy V_D signal output.

LC7418

IC711 (M50959) TIMER MPU PIN FUNCTIONS TABLE

Pin No.	Port	Input/Output Signal	I/O	Input/Output Function
1	Vcc			+ 5V
2	$P6_5$	TXD	O	DATA signal output to VIDEO TEXT (TELETEXT) MPU.
3	$P6_4$	RXD	I	DATA signal input from VIDEO TEXT (TELETEXT) MPU.
4	$P6_3$	PLL CLK	O	Signal input/output of CLOCK, DATA, CE (chip enable) for PLL tuning system IC.
5	$P6_2$	PLL DATA	I/O	
6	$P6_1$	PLL CE	O	
7	$P6_0$/T	ADJUST	O	Pulse output (32.768kHz/1024 = 32Hz) for clock frequency adjustment.
8	$P2_7$	$\overline{CLK}$	O	Clock pulse output to the E² PROM.
9	$P2_6$	DI	I/O	Data exchange with the E² PROM.
10	$P2_5$	$\overline{E^2\ PROM\ CS1}$	O	E² PROM 1 is accessed when "L".
11	$P2_4$	$\overline{BG}$/L	O	Transmission system switching ("L" = PAL BG ; "H" = SECAM L).
12	$P2_3$	VIDEO MUTE	O	"H" output during VIDEO MUTE.
13	$P2_2$	TUNER ON	O	"H" output when power is ON and during VPS scanning.
14	$P2_1$	$\overline{AUDIO\ MUTE}$	O	"L" output during AUDIO MUTE.
15	$P2_0$	TEXT CLK	O	CLOCK signal output to VIDEO-TEXT (TELETEXT) MPU.
16	$P3_7$/$\overline{Srdy}$		–	
17	$P3_6$/CLK	$\overline{S.CLK}$	I	SSB clock pulse input.
18	$P3_5$/Sout	$\overline{S.OUT}$	O	SSB data output.
19	$P3_4$/Sin	S.IN	I	SSB data input.
20	$P3_3$/ANin	AFT.C	I	AFT.S curve input.
21	$P3_2$/CNTR	H.SYNC	I	Sync. detection signal input for existing channel discrimination. ("L" = Existing Sync.)
22	$P3_1$	SCL	O	Clock pulse output to the VPS decoder IC.
23	$P3_0$	SDA	I/O	Data exchange with the VPS decoder IC.
24	$P5_3$/INT_1	$\overline{POWER\ DOWN}$	I	Power failure mode set at "L" input.
25	$P5_2$/INT_2	IR SIG. IN	I	Remote control signal input.
26	CNVss			Ground.
27	$\overline{RESET}$			Reset terminal.
28	Xin			6MHz clock terminal.
29	Xout			
30	Xcin			32.768kHz (clock OSC used in the power failure mode)
31	Xcout			
32	Vss			Ground
33	ϕ			
34	$P5_7$	KEY IN4	I	Key inputs
35	$P5_6$	KEY IN3	I	
36	$P5_5$	KEY IN2	I	
37	$P5_4$	KEY IN1	I	
38	Vp	Vp		-30V
39	$P5_1$	STEREO R	O	2-bit signal output for AUDIO OUTPUT SELECT and audio output display indication according to table below.
40	$P5_0$	STEREO L	O	
41	$P1_7$	o	O	Display segment outputs. (Included key-scan output)
42	$P1_6$	n	O	
43	$P1_5$	m	O	
44	$P1_4$	l	O	
45	$P1_3$	k	O	
46	$P1_2$	j	O	
47	$P1_1$	i	O	
48	$P1_0$	G9	O	Display grid outputs.
49	$P0_7$	G8	O	
50	$P0_6$	G7	O	
51	$P0_5$	G6	O	
52	$P0_4$	G5	O	
53	$P0_3$	G4	O	
54	$P0_2$	G3	O	
55	$P0_1$	G2	O	
56	$P0_0$	G1	O	
57	$P4_7$	h	O	Display segment outputs. (Included key-scan output)
58	$P4_6$	g	O	
59	$P4_5$	f	O	
60	$P4_4$	e	O	
61	$P4_3$	d	O	
62	$P4_2$	c	O	
63	$P4_1$	b	O	
64	$P4_0$	a	O	

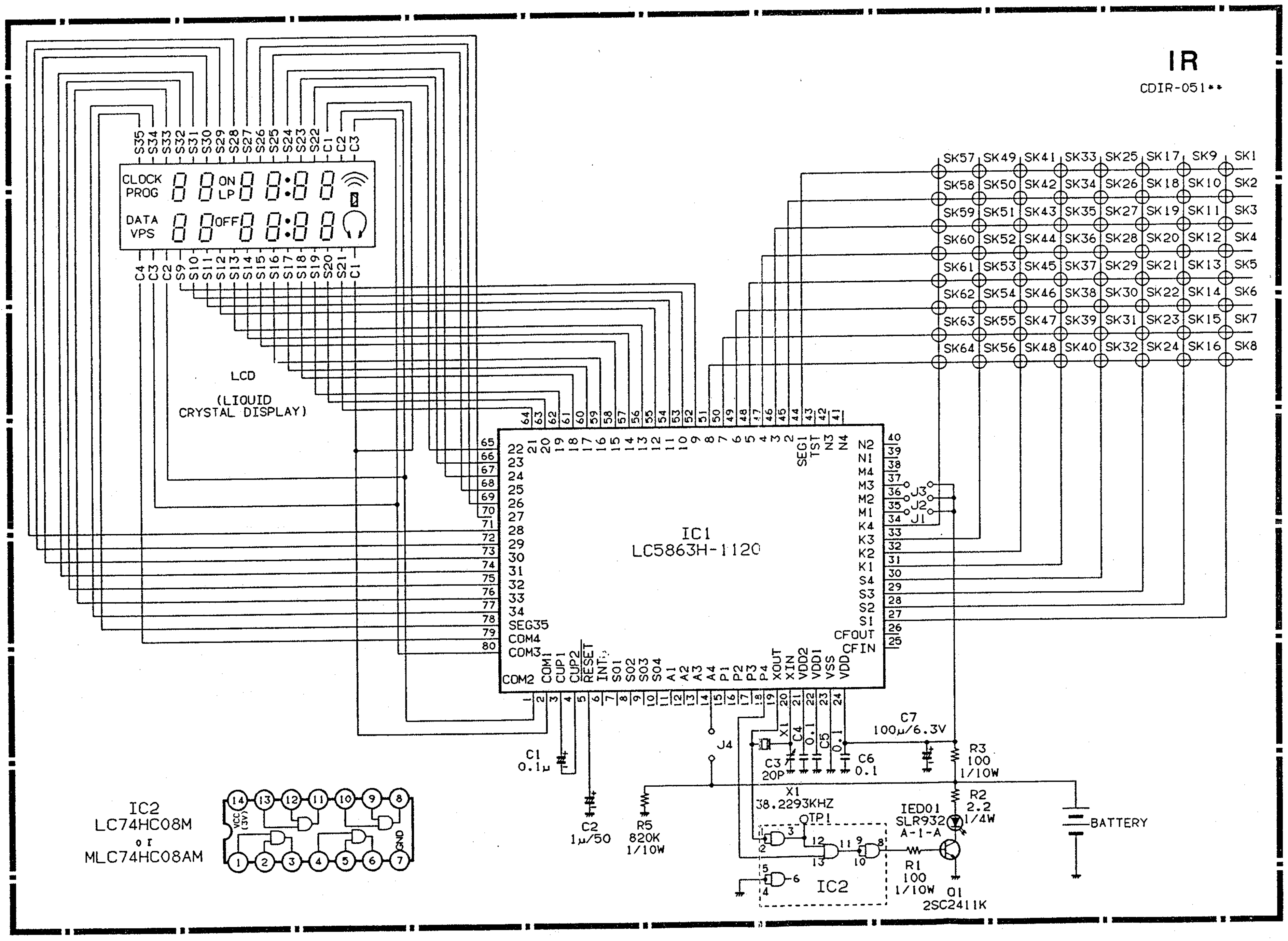
NOTE : Clock frequency check with ADJUST terminal of Pin 7.

1. Connect the anode of the diode (IS188 etc.) to Pin 44 (key-scan l) and the cathode to Pin 37 (KEY IN 1). Then ground the Pin 27 ($\overline{RESET}$) terminal once and reset the microcomputer.
2. The clock frequency (32 Hz) can be observed with the ADJUST terminal of Pin 7 according to the servicing above.
3. In order to set normal function mode again, ground the terminal of Pin 27 ($\overline{RESET}$) once and reset the microcomputer after removing the diode connected to Pins 44 and 37.

PORT \ MODE	NORMAL	MAIN	SUB	STEREO
STEREO R (Pin 39)	L	L	H	H
STEREO L (Pin 40)	L	H	L	H

P50959F0

IR REMOTE CONTROL CIRCUIT DIAGRAM


IR
CDIR-051••
LCD
(LIQUID CRYSTAL DISPLAY)
CLOCK
PROG
DATA
VPS
ON
LP
OFF
S35 S34 S33 S32 S31 S30 S29 S28 S27 S26 S25 S24 S23 S22 C1 C2 C3
C4 C3 C2 S9 S10 S11 S12 S13 S14 S15 S16 S17 S18 S19 S20 S21 C1
SK57 SK49 SK41 SK33 SK25 SK17 SK9 SK1
SK58 SK50 SK42 SK34 SK26 SK18 SK10 SK2
SK59 SK51 SK43 SK35 SK27 SK19 SK11 SK3
SK60 SK52 SK44 SK36 SK28 SK20 SK12 SK4
SK61 SK53 SK45 SK37 SK29 SK21 SK13 SK5
SK62 SK54 SK46 SK38 SK30 SK22 SK14 SK6
SK63 SK55 SK47 SK39 SK31 SK23 SK15 SK7
SK64 SK56 SK48 SK40 SK32 SK24 SK16 SK8
IC1
LC5863H-1120
SEG35
COM4
COM3
COM2
COM1
CUP1
CUP2
RESET
INT
S01 S02 S03 S04
A1 A2 A3 A4
P1 P2 P3 P4
XOUT XIN VDD2 VDD1 VSS VDD
CFOUT
CFIN
S1 S2 S3 S4
K1 K2 K3 K4
M1 M2 M3 M4
N1 N2 N3 N4
SEG1 TST
J1 J2 J3 J4
C1
0.1μ
C2
1μ/50
R5
820K
1/10W
C3
20P
X1
38.2293KHZ
C4
0.1
C5
0.1
C6
0.1
C7
100μ/6.3V
R3
100
1/10W
R2
2.2
1/4W
IED01
SLR932
A-1-A
R1
100
1/10W
Q1
2SC2411K
TP1
BATTERY
IC2
LC74HC08M
or
MLC74HC08AM
VCC (3V)
GND

AVAILABLE KEY FUNCTION OF REMOTE CONTROL UNIT

KEY NO.	FUNCTION	
1	PAUSE	USE
2	STOP	USE
3	MODE -	USE
4	REC	USE
5		USE
6	MODE +	USE
7	SEARCH	USE
8	SLOW	USE
9	FF	USE
10	PLAY	USE
11	BLANK	USE
12	REW	USE
13	A.TR	USE
14	C.DISP	USE
15	SPECIAL	USE
16	RESET	USE
17	EJECT	
18	R.PLAY	
19	X2S	
20	A.DUB	USE
21	INSERT	USE
22	↓	
23	MARK	USE
24	CNT M	USE
25	CH +	USE
26	0/AV	USE
27	CH -	USE
28	A.SEL	USE
29	CANCEL	USE
30	←	
31	↑	
32	→	
33	9	USE
34	8	USE
35	7	USE
36	SC	USE
37	CLOCK	USE
38	SIZE	
39	ART	
40	INST	
41	6	USE
42	5	USE
43	4	USE
44	SP/LP	USE
45	CHECK	USE
46	CHSCAN	
47	OK	
48	M.STILL	
49	3	USE
50	2	USE
51	1	USE
52	VPS	USE
53	PROG	USE
54	M.CALL	
55	OSD	
56	ERASE	
57	TRANS	USE
58	ZOOM	
59	MONITOR	USE
60	VCR/TV	
61	POWER	USE
62	PRESET	
63	NR	
64	MUTE	

IR-05136

K

J

I

H

G

F

E

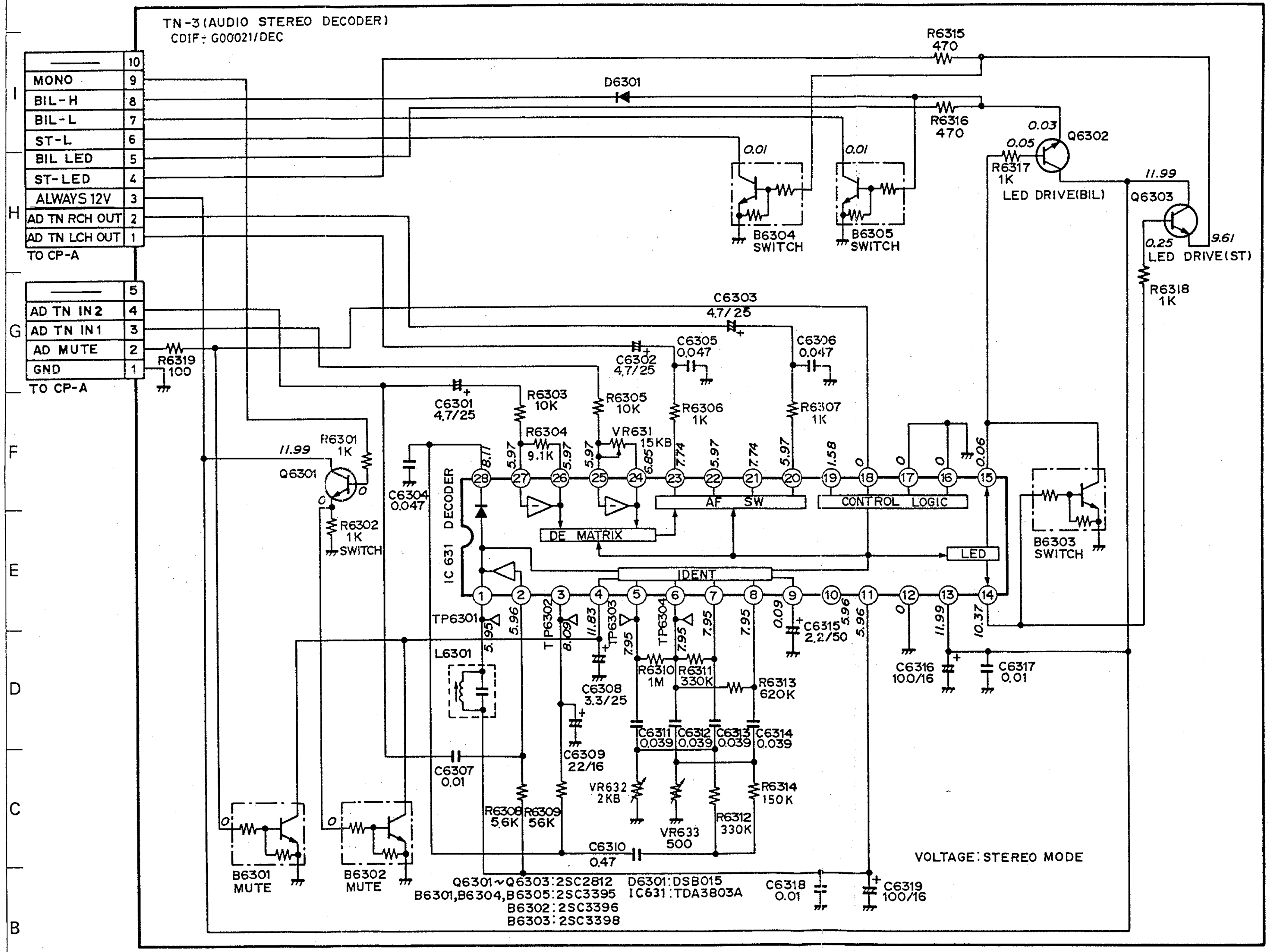
D

C

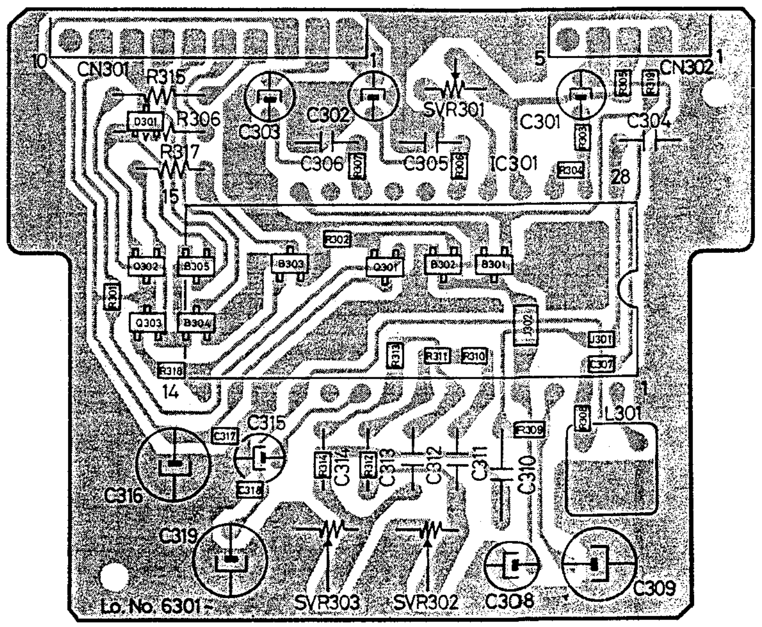
B

A

TUNER AUDIO STEREO DECODER CIRCUIT DIAGRAM


TN-3(AUDIO STEREO DECODER)
CDIF: G00021/DEC
10
MONO 9
BIL-H 8
BIL-L 7
ST-L 6
BIL LED 5
ST-LED 4
ALWAYS 12V 3
AD TN RCH OUT 2
AD TN LCH OUT 1
TO CP-A
5
AD TN IN2 4
AD TN IN1 3
AD MUTE 2
GND 1
TO CP-A
R6319 100
D6301
R6315 470
R6316 470
0.01
B6304 SWITCH
0.01
B6305 SWITCH
0.03
0.05
Q6302
R6317 1K
LED DRIVE(BIL)
11.99
Q6303
0.25
9.61
LED DRIVE(ST)
R6318 1K
C6303 4.7/25
C6302 4.7/25
C6305 0.047
C6306 0.047
C6301 4.7/25
R6303 10K
R6305 10K
R6304 9.1K
VR631 15KB
R6306 1K
R6307 1K
11.99
R6301 1K
Q6301
R6302 1K
SWITCH
C6304 0.047
DECODER
IC 631
DE MATRIX
AF SW
CONTROL LOGIC
LED
IDENT
B6303 SWITCH
8.11 5.97 5.97 5.97 6.85 7.74 5.97 7.74 5.97 1.58 0 0 0 0.06
28 27 26 25 24 23 22 21 20 19 18 17 16 15
1 2 3 4 5 6 7 8 9 10 11 12 13 14
TP6301
5.95 5.96 TP6302 8.09 11.83 TP6303 7.95 TP6304 7.95 7.95 7.95 0.09 5.96 5.96 0 11.99 10.37
L6301
C6315 2.2/50
C6308 3.3/25
R6310 1M
R6311 330K
R6313 620K
C6316 100/16
C6317 0.01
C6309 22/16
C6311 0.039
C6312 0.039
C6313 0.039
C6314 0.039
C6307 0.01
VR632 2KB
VR633 500
R6314 150K
R6312 330K
R6308 5.6K
R6309 56K
C6310 0.47
B6301 MUTE
B6302 MUTE
VOLTAGE: STEREO MODE
Q6301~Q6303: 2SC2812
B6301,B6304,B6305: 2SC3395
B6302: 2SC3396
B6303: 2SC3398
D6301: DSB015
IC631: TDA3803A
C6318 0.01
C6319 100/16

DECODER P.C.B.


10
CN301
R316
R306
R317
15
D301
C303
C302
SVR301
C301
C304
CN302
5
1
C306
C305
IC301
28
14
C315
C317
C316
C319
C314
C313
C312
C311
C310
L301
C309
C308
SVR303
SVR302
Lo. No. 6301

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

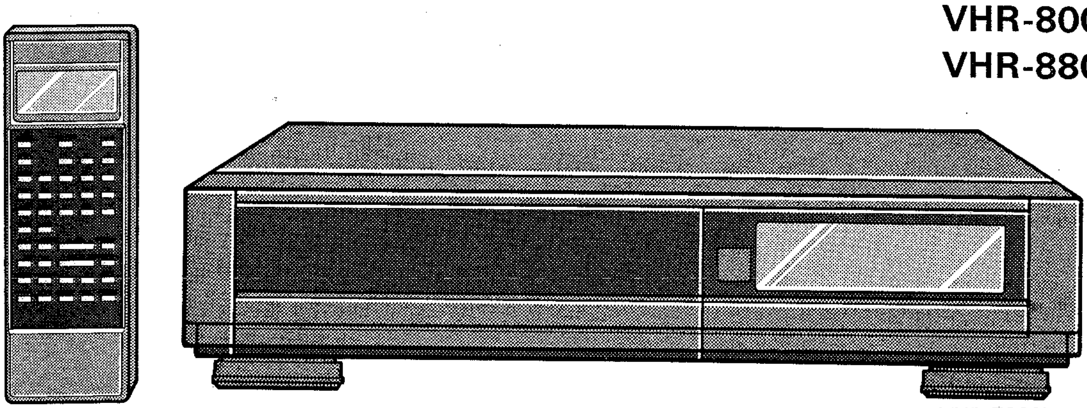
ūSh

SANYO

Service Manual

Video Cassette Recorder

VHR-7800G
(West Germany)
VHR-7800I
(Italy)
VHR-7810G
(Switzerland, etc.)
VHR-8000SP
VHR-8801SP
(Spain)



VHR-7800I

VHS HQ
PAL
Hi-Fi

Table of Contents

1. CIRCUIT BOARD LOCATIONS

1-1. MAIN BOARDS 1
1-2. LOCATION FOR TAPE PATH ADJUSTMENT 1

2. ELECTRICAL ADJUSTMENT

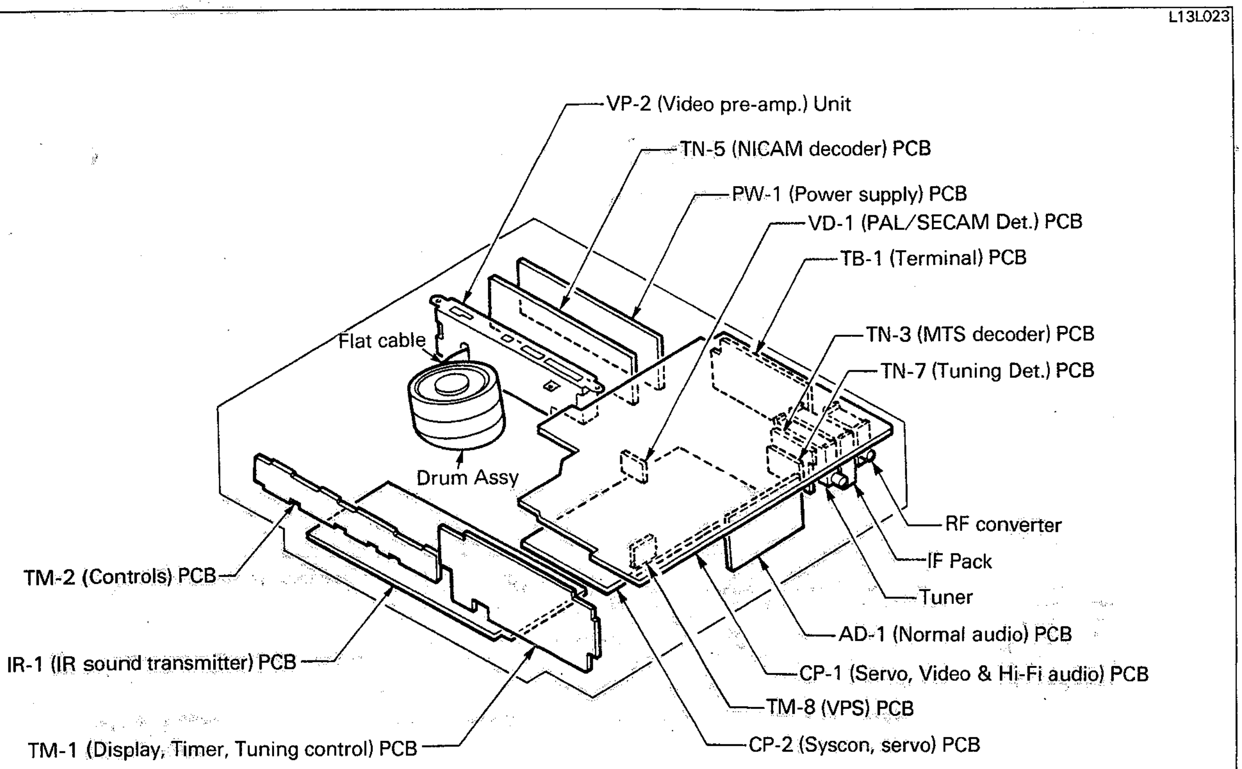
2-1. PREPARATION 2
2-2. SERVO CIRCUIT ADJUSTMENT 3
2-3. VIDEO CIRCUIT ADJUSTMENT 5
2-4. AUDIO CIRCUIT ADJUSTMENT 7
2-5. LEVEL METER CIRCUIT ADJUSTMENT 9
2-6. IR SOUND TRANSMITTER CIRCUIT 10
2-7. IR SOUND RECEIVER CIRCUIT 11
2-8. NICAM DECODER CIRCUIT ADJUSTMENT 13
2-9. MTS DECODER CIRCUIT ADJUSTMENT 14
2-10. TUNER IF CIRCUIT ADJUSTMENT 15

LP3H/G, I, SP, SP2, LP3HA/G

REFERENCE No. WM-530715

1. CIRCUIT BOARD LOCATIONS

1-1. MAIN BOARDS


L13L023
VP-2 (Video pre-amp.) Unit
TN-5 (NICAM decoder) PCB
PW-1 (Power supply) PCB
VD-1 (PAL/SECAM Det.) PCB
TB-1 (Terminal) PCB
TN-3 (MTS decoder) PCB
TN-7 (Tuning Det.) PCB
Flat cable
Drum Assy
RF converter
IF Pack
Tuner
AD-1 (Normal audio) PCB
CP-1 (Servo, Video & Hi-Fi audio) PCB
TM-8 (VPS) PCB
CP-2 (Syscon, servo) PCB
TM-2 (Controls) PCB
IR-1 (IR sound transmitter) PCB
TM-1 (Display, Timer, Tuning control) PCB

NOTE:
- * TN-3 (MTS decoder) PCB is installed on VHR-7800G, 7810G and 7800I.
- * TN-5 (NICAM decoder) PCB is installed on VHR-8800SP, 8801SP.
- * VD-1 (PAL/SECAM det.) and TM-8 (VPS) PCB is installed on VHR-7800G, 7810G.
- * IR-1 (IR sound transmitter) PCB is installed on VHR-7810G only.

Fig. 1-1

1-2. LOCATION FOR TAPE PATH ADJUSTMENT

NOTE: Test point TP182 and TP183 for tape path adjustment is shown in figure below.
For adjustment, refer to the separate volume "Mechanism Service Technical Information".

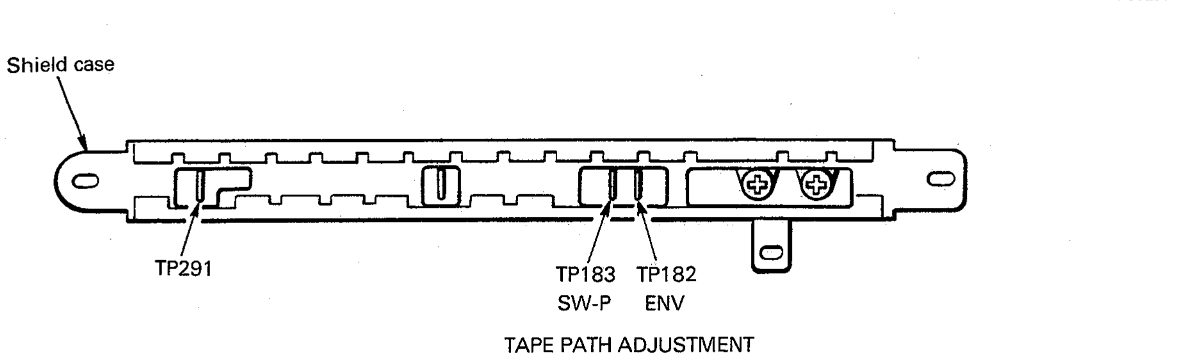

P06L005
Shield case
TP291
TP183
SW-P
TP182
ENV
TAPE PATH ADJUSTMENT

Fig. 1-2 Pre-amp Unit

2. ELECTRICAL ADJUSTMENT

2-1. PREPARATION

2-1-1. EQUIPMENT

- Colour TV monitor
- PAL Colour-bar generator (with RF and LINE OUTPUT)
- Audio signal generator
- Oscilloscope (dual trace; frequency response: 10MHz or more; probe: 10:1)
- Frequency counter (countable to 10MHz or higher)
- Digital voltmeter
- AC voltmeter
- In/output probes
- Alignment cassette (VHJ-0008) PAL Colour bar 1KHz
- Alignment cassette (VHJ-0009) Monoscope 6KHz
- Alignment cassette (VHJ-0051) Check for D.O.C.
- Alignment cassette (VHJ-0023) PAL Monoscope 6KHz, PAL Colour-bar 1KHz, SECAM Colour-bar 1KHz, PAL RF Sweep MESECAM Colour-bar 1KHz, NTSC Colour-bar 1KHz.
- Alignment cassette (VHJ-0080) PAL colour bar HiFi BPF
- Alignment cassetee (VHJ-0020) AF level colour bar 1KHz
- Relay jig (VHJ-0067) 12-wire cable for Pre-amp unit
  Connect the Flat cable end from the Drum assembly to the Pre-amp unit using the Relay jig to provide simple repairing and adjustment of the Pre-amp unit, as shown in Fig. 2-1-1. Further, when adjusting the Pre-amp unit, be sure to make contact an end of Shield case with Bracket of the Pre-amp unit to maintain the shield effect.
- Extension relay jig (VHJ-0079) for CP-1 PCB
  Connect between the CP-1 and TM-1 PCB using the Extension relay jig to provide simple repairing and adjustment of the CP-1 PCB, as shown in Fig. 2-1-2. Correctly, connect the Connector from CN304 on the CP-2 PCB to CN005 of the Relay jig, and that from CN001 of the Relay jig to CN711 of the TM-1 PCB. The connector from CN002 of the Relay jig is not required connect.

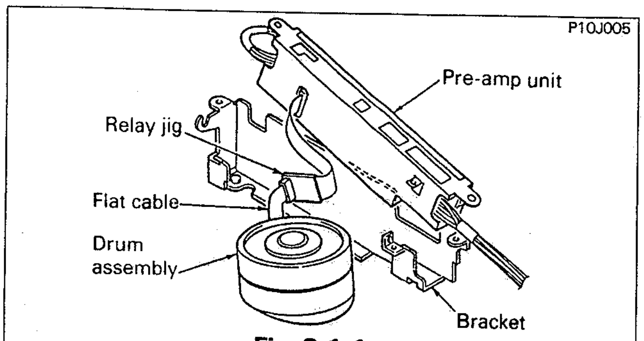

P10J005
Pre-amp unit
Relay jig
Flat cable
Drum assembly
Bracket

Fig. 2-1-1

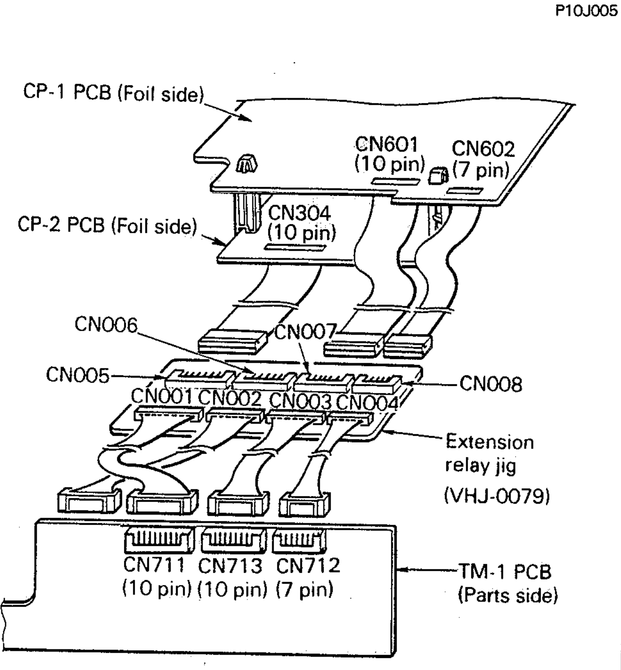

P10J005
CP-1 PCB (Foil side)
CN601 (10 pin)
CN602 (7 pin)
CP-2 PCB (Foil side)
CN304 (10 pin)
CN006
CN007
CN005
CN001 CN002 CN003 CN004
CN008
Extension relay jig (VHJ-0079)
CN711 CN713 CN712
(10 pin) (10 pin) (7 pin)
TM-1 PCB (Parts side)

Fig. 2-1-2

2-1-2. SET-UP

Because the RF input signal is used for circuit adjustments, connect the colour-bar generator to the ANT IN terminal of the VCR. The RF input signal is processed by the tuner and IF circuit. It is important that the video output signal of the IF circuit satisfies the items shown in Fig. 2-1-3. Connect the oscilloscope to the VIDEO OUTPUT terminal of the video circuit and terminate with a 75Ω load, and then check the video output signal.

- The amplitude of the sync signal should be approximately 0.3 Vp-p.
- The amplitude of the video signal should be approximately 0.7 Vp-p.
- While observing the oscilloscope or TV screen, make fine-tuning adjustments so that the colour burst amplitude is approximately 0.3 Vp-p.
- Check to be sure that there is no spike noise in the sync part of the horizontal sync signal.

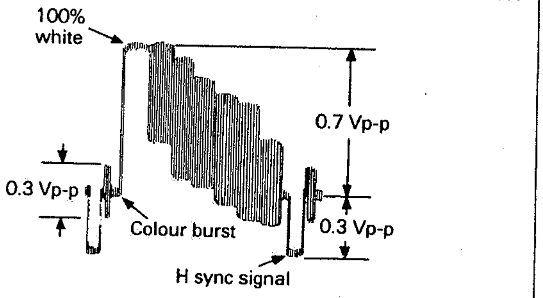
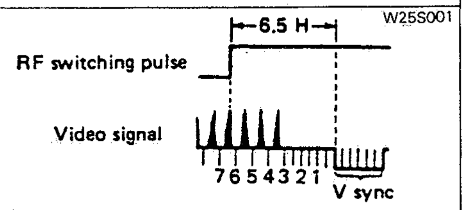
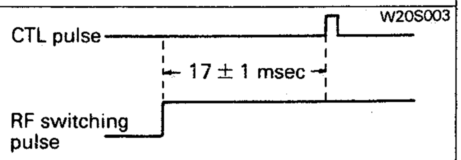
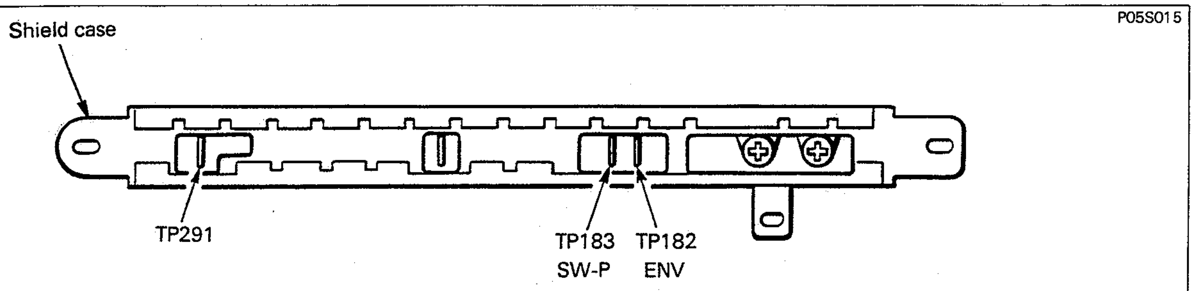


Fig. 2-1-3

2-2. SERVO CIRCUIT ADJUSTMENT ..... CP-1 PCB and VP-2 Pre-amp Unit

NOTE (1) : These adjustments should be carried out upon completion of the transport adjustments.
(2) : If the tape transport adjustments are carried out after these adjustments, follow the procedures again in SWITCHING POSITIONS.

No.	Item	Input	Mode	Point	Location	Remark
1	SWITCHING POSITION	Alignment cassette (VHJ-0009 or VHJ-0023)	PLAY	VIDEO OUTPUT TP101 RF SW pulse TP183 (pre-amp unit)	VR351	 W25S001 6.5 H RF switching pulse Video signal 7 6 5 4 3 2 1 V sync 1. Press the tracking control (+) (–) buttons simultaneously to the center position (on the display "T —:— "). 2. Adjust VR351 so that the phase of the leading edge of the vertical sync signal is delayed 6.5 ± H from the rise of the RF switching pulse waveform.
2	STILL V-LOCK	Colour bar from Colour bar generator	REC ↓ PLAY ↓ STILL	TV screen	VR361 Rear panel	1. Put the VCR in the REC mode and record at the middle of the cassette tape. 2. Playback the recorded part, and put the VCR in the STILL mode. 3. Adjust VR361 so that the V jitter (very fine movement of the vertical sync) is minimized.
3	SLOW TRACKING	Colour bar from Colour bar generator	REC ↓ PLAY ↓ SLOW	TP183 RF SW pulse (pre-amp unit) TP354 CTL pulse	VR353	 1. Put the VCR in the REC mode and record at the middle of the cassette tape. 2. Playback the recorded part, and VCR in the SLOW mode by remote control unit. 3. Press the tracking control (+) (–) buttons simultaneously to the center position (on the display "T —:— "). 4. Adjust VR353 so that the phase of the CTL pulse is 17 ± 1 msec after the rise of the RF switching pulse. In this instance, delay the CTL pulse. 5. Confirm that the noise at the "+" and "–" terminals for tracking adjustment is same at the upper and lower edges of the screen. If not, readjust VR353.



TAPE PATH ADJUSTMENT

Fig. 2-2-2 Pre-amp Unit

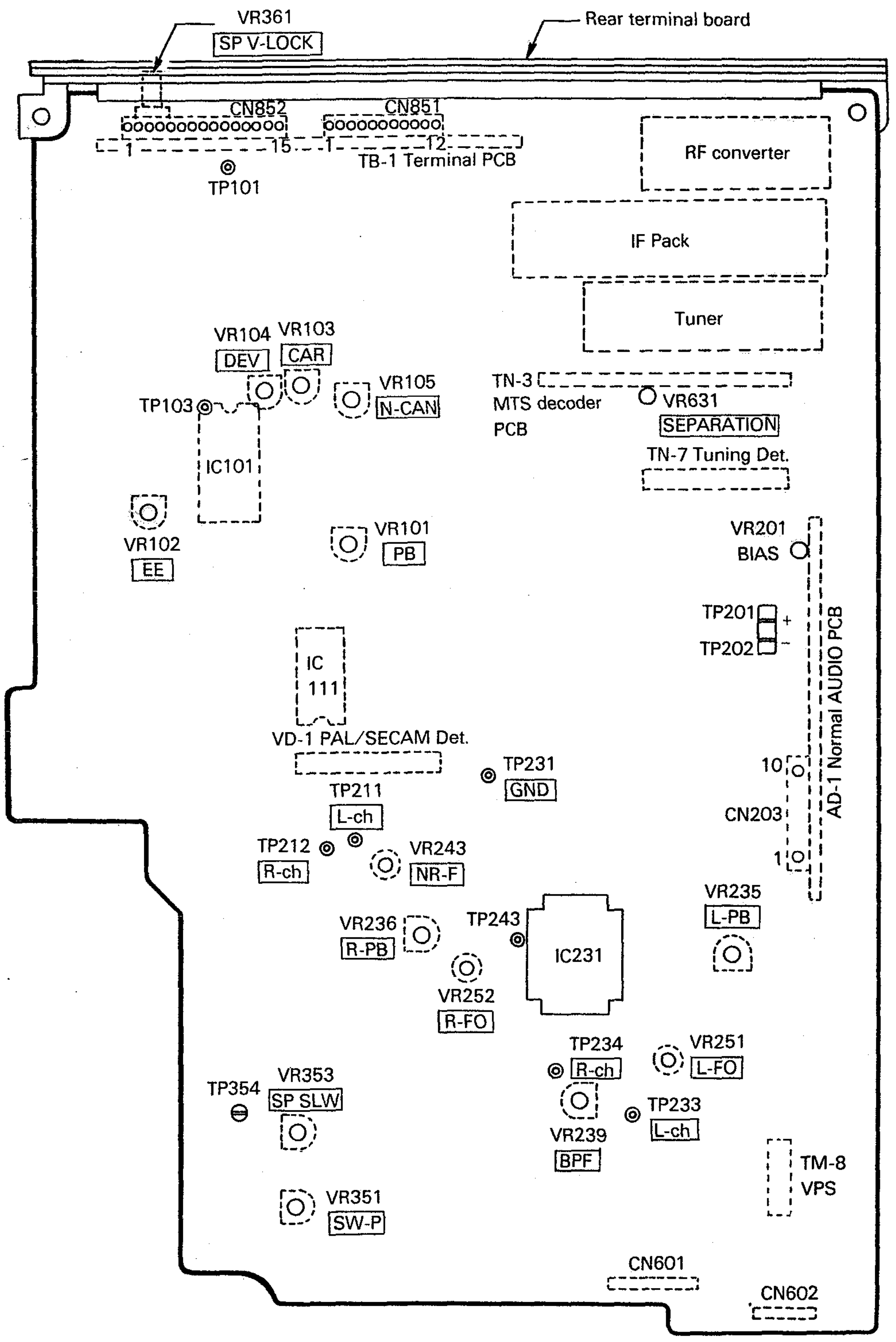
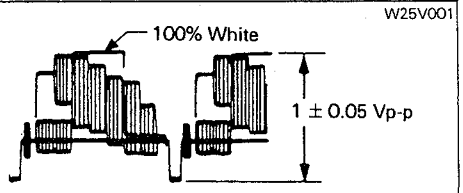
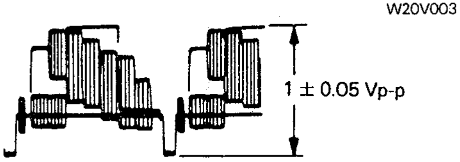
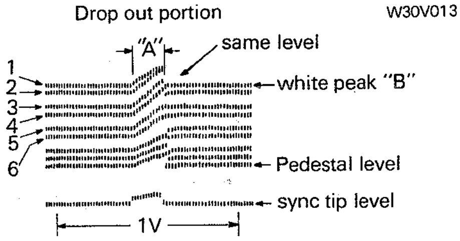
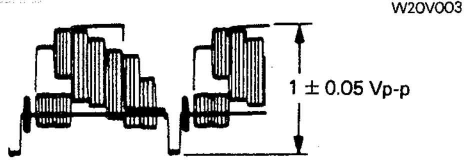
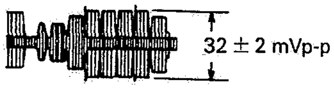
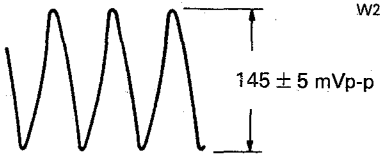

P22S018
VR361
SP V-LOCK
Rear terminal board
CN852
CN851
1
15
1
12
TB-1 Terminal PCB
TP101
RF converter
IF Pack
Tuner
VR104
DEV
VR103
CAR
VR105
N-CAN
TP103
IC101
TN-3
MTS decoder
PCB
VR631
SEPARATION
TN-7 Tuning Det.
VR102
EE
VR101
PB
VR201
BIAS
TP201
+
TP202
−
AD-1 Normal AUDIO PCB
IC
111
VD-1 PAL/SECAM Det.
TP231
GND
TP211
L-ch
10
CN203
1
TP212
R-ch
VR243
NR-F
VR235
L-PB
VR236
R-PB
TP243
IC231
VR252
R-FO
TP234
R-ch
VR251
L-FO
TP354
VR353
SP SLW
TP233
L-ch
VR239
BPF
TM-8
VPS
VR351
SW-P
CN601
CN602

Fig. 2-2-1 CP-1 PCB (Foil side view)

2-3. VIDEO CIRCUIT ADJUSTMENT ... CP-1 PCB and VP-2 Pre-amp Unit

NOTE (1) : When adjustment No. 1, No. 2 and No. 5 below, terminate VIDEO OUTPUT TP101 at 75 ohms.
(2) : Adjustment No. 3 below, should be performed after stabilizing the circuit operation. (At least 5 minutes after VCR power on.)
(3) : 'No-signal REC mode' is not to supply any signal to VIDEO INPUT terminal.
(4) : Use the Relay jig mentiond in the 2-1. PREPARATION to provide easy adjustment of the Pre-amp unit.

No.	Item	Input	Mode	Point	Location	Remark
1	E-E LEVEL	Colour bar (100% white level) from Colour bar generator	E-E	VIDEO OUTPUT TP101 (CP-1 PCB)	VR102	 1. Adjust VR102 so that the level is 1.00 ± 0.05 Vp-p.
2	PB-Y LEVEL	Alignment cassette (VHJ-0008 or VHJ-0023)	PLAY	VIDEO OUTPUT TP101 (CP-1 PCB)	VR101	 1. Adjust VR101 so that the level is 1.00 ± 0.05 Vp-p.
3	N-CAN LEVEL	Alignment cassette (VHJ-0051)	PLAY	VIDEO OUTPUT TP101 (CP-1 PCB)	VR105	 Drop out portion W30V013 "A" same level 1 2 3 4 5 6 white peak "B" Pedestal level sync tip level 1V 1. Set the horizontal scale (TIME/DIV) of the oscilloscope to 1 ~ 2 msec./div. and observe the drop out waveform. 2. Turn the horizontal scale to 0.2 msec./div.. 3. Adjust VR105 so that the drop out portion "A" of 4th waveform and other white peak "B" are same level.
4	CARRIER SET	No-signal	REC	TP103 (CP-1 PCB)	VR103	1. Set the channel selector buttons to the AV position and put the VCR in the no-signal REC mode. 2. Adjust VR103 so that the frequency is 3.80 ± 0.05 MHz.
5	DEVIATION	Colour bar (100% white level) from Colour bar generator	REC (Adjustment) ↓ PLAY (Check)	VIDEO OUTPUT TP101 (CP-1 PCB)	VR104	 1. Insert the blank tape to the VCR and record colour bar signal. 2. Playback the recorded part, and check that the level is 1.00 ± 0.05 Vp-p. 3. Repeat adjust VR104 before the record, and the playback it, if not satisfactory.

No.	Item	Input	Mode	Point	Location	Remark
6	C REC CURRENT	Colour bar from Colour bar generator	REC	TP181 (HOT) shield case (GND) (Pre-amp unit)	VR181	W15V006  1. Rotate VR182 so that the luminance level is minimize. 2. Adjust VR181 so that the level is 32 ± 2 mVp-p.
7	Y REC CURRENT	No-signal	REC	TP181 (HOT) shield case (GND) (Pre-amp unit)	VR182	W20V007  1. Set the channel selector buttons to AV position and put the VCR in the no-signal REC mode. 2. Adjust VR182 so that the level is 145 ± 5 mVp-p.

P06V005

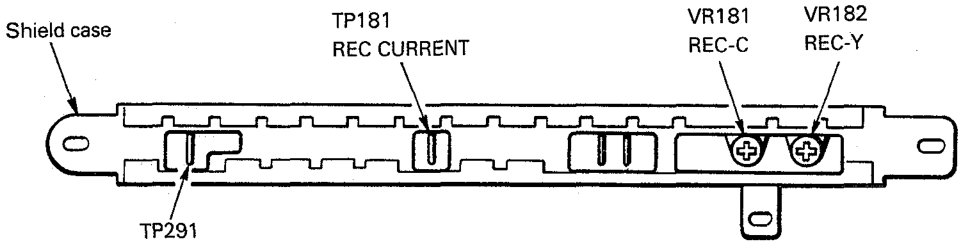

Shield case
TP181
REC CURRENT
VR181
REC-C
VR182
REC-Y
TP291

Fig. 2-3-1 Pre-amp Unit

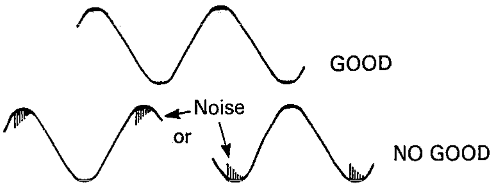
2-4. AUDIO CIRCUIT ADJUSTMENT

SETTING BEFORE ADJUSTMENT

- The audio input terminal of the audio signal generator should be terminated at 600 ohms.
- The audio output terminal of the VCR should be terminated at 47 killo ohms (L ch and R ch).
- 0/AV button on the remote control unit . . . .[AV] position.
- $\overline{\text{AUDIO}}$ output button on the remote control unit . . . .[L] and [R] position.
- SP/LP select button on the remote control unit . . . .[SP] position.
- AUDIO REC LEVEL control unit (L and R ch) . . . . Center (click stop) position.

Hi-Fi AUDIO CIRCUIT .... CP-1 PCB

NOTE (1): The Hi-Fi AUDIO section adjustment has separate adjustment items for the L ch and R ch.
The R ch adjustments are included in parentheses.
(2): 'No-signal record mode' is not to supply any signal to the AUDIO INPUT terminal.

No.	Item	Input	Mode	Point	Location	Remark
1	A-FM CARRIER FREQUENCY	No-signal	REC	TP233 (L ch) TP234 (R ch)	VR251 (L ch) VR252 (R ch)	1. Connect a frequency counter to TP233 (TP234) and ground. 2. Adjust VR251 (VR252) so that the carrier frequency is 1.4 MHz (1.8 MHz) ± 2.5 KHz.
2	A-FM BPF	Alignment cassette (VHJ-0080)	PLAY	AUDIO OUTPUT CN852 pin 10 (L ch) pin 9 (R ch)	VR239	 1. Connect a oscilloscope to CN852 pin 10 (pin 9) and ground. 2. Playback the alignment cassette and observe the waveform on the audio output. 3. Adjust VR239 until the noise component of both channel is minimum level.
3	A-FM NR FILTER	Audio signal (5 KHz, -17 dBm) from Audio signal generator	E-E	TP243	VR243	1. Adjust VR243 so that the output level is minimum.
4	A-FM PB LEVEL	Alignment cassette (VHJ-0020)	PLAY	AUDIO OUTPUT CN852 pin 10 (L ch) pin 9 (R ch)	VR235 (L ch) VR236 (R ch)	1. Adjust VR235 (VR236) so that the playback level is -7 ± 0.5dBm.

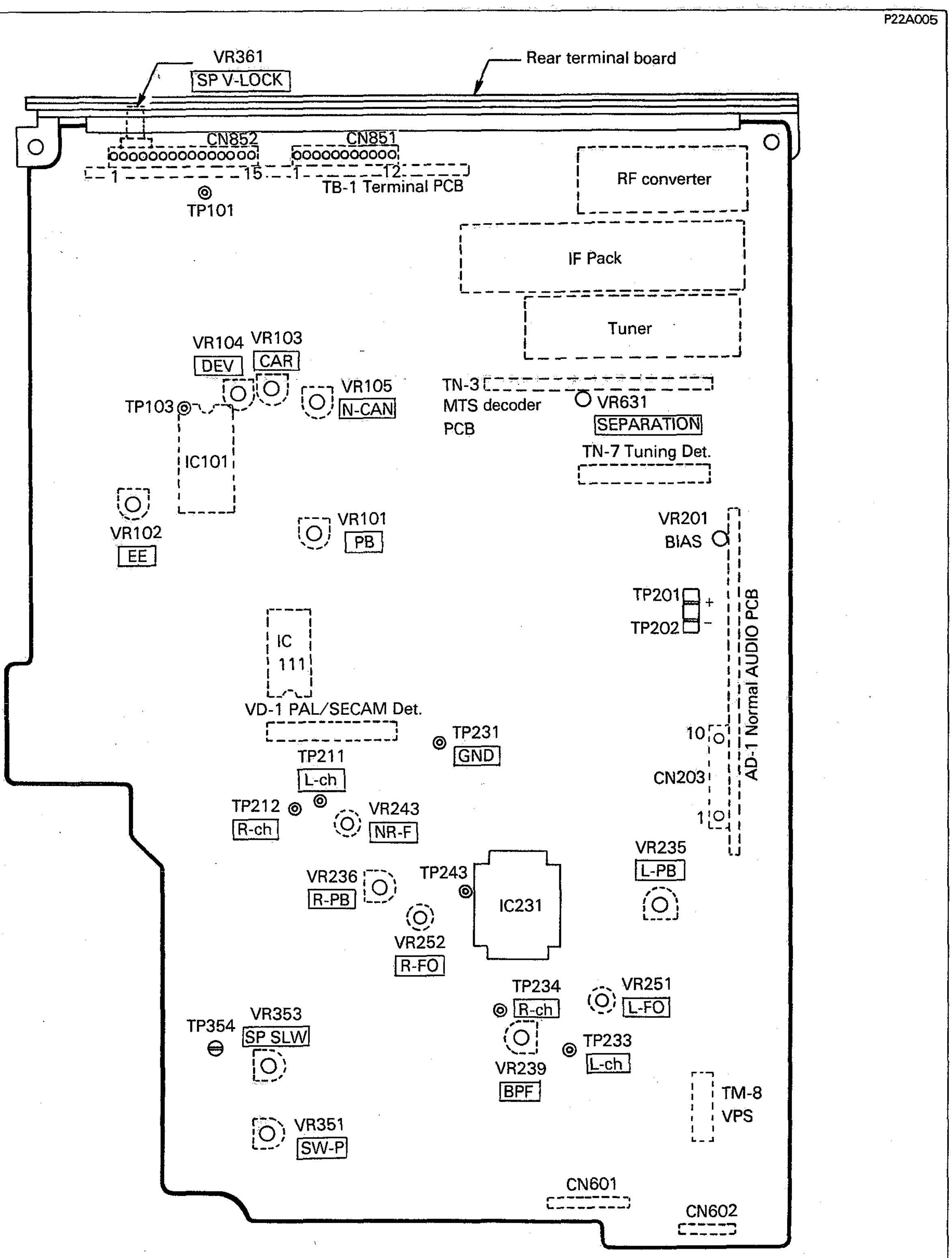

P22A005
VR361
SP V-LOCK
Rear terminal board
CN852
CN851
1
15
1
12
TB-1 Terminal PCB
TP101
RF converter
IF Pack
Tuner
VR104
DEV
VR103
CAR
VR105
N-CAN
TP103
IC101
TN-3
MTS decoder
PCB
VR631
SEPARATION
TN-7 Tuning Det.
VR102
EE
VR101
PB
VR201
BIAS
TP201
+
TP202
−
AD-1 Normal AUDIO PCB
IC
111
VD-1 PAL/SECAM Det.
TP231
GND
TP211
L-ch
10
CN203
1
TP212
R-ch
VR243
NR-F
VR235
L-PB
VR236
R-PB
TP243
IC231
VR252
R-FO
TP234
R-ch
VR251
L-FO
VR353
SP SLW
TP354
TP233
L-ch
VR239
BPF
TM-8
VPS
VR351
SW-P
CN601
CN602

Fig. 2-4-1 CP-1 PCB (Foil side view)

NORMAL AUDIO CIRCUIT ..... CP-1 and AD-1 PCB

NOTE (1): The VR201 (on the AD-1 PCB) accessible from the foil side of CP-1 PCB (Fig. 2-4-1).
(2): 'No-signal record mode' is not to supply any signal to the AUDIO INPUT terminal.
(3): Press the AUDIO output select button to the Mono (No indication) position.

No.	Item	Input	Mode	Point	Location	Remark
1	BIAS LEVEL	No-signal	REC	TP201 (HOT) TP202 (CP-1 PCB)	VR201 (CP-1 PCB)	1. Set the channel selector buttons to the AV position and put the VCR in the no-signal REC mode. 2. Adjust VR201 so that the level is 19 mVrms.

2-5. LEVEL METER CIRCUIT ADJUSTMENT ... CP-1 and TM-1 PCB

No.	Item	Input	Mode	Point	Location	Remark
1	AUDIO LEVEL METER	Audio signal (1 KHz, -7 dBm) from Audio signal generator	E-E	AUDIO OUTPUT CN852 pin 10 (L ch) pin 9 (R ch) (CP-1 PCB)	VR241 (L ch) VR242 (R ch) (TM-1 PCB)	1. Connect an audio signal generator to AUDIO INPUT terminals. 2. Connect the AC voltmeter to the AUDIO OUTPUT terminals. 3. Set the LEVEL METER switch to the "AUTO LEVEL" position. 4. Press the "0" button on the remote control unit to the AV position. 5. Press the AUDIO output button on the remote control unit to the "Lch" and "Rch" position. 6. Set the AUDIO REC LEVEL control so that the audio output signal level is -7.0dBm. 7. Adjust VR241 and VR242 so that illuminates the -4dB LED. 8. Set the AUDIO REC LEVEL control so that the audio output signal level is -7.5dBm. 9. Adjust VR241 and VR242 so that confirm only the -4dB LED goes out.

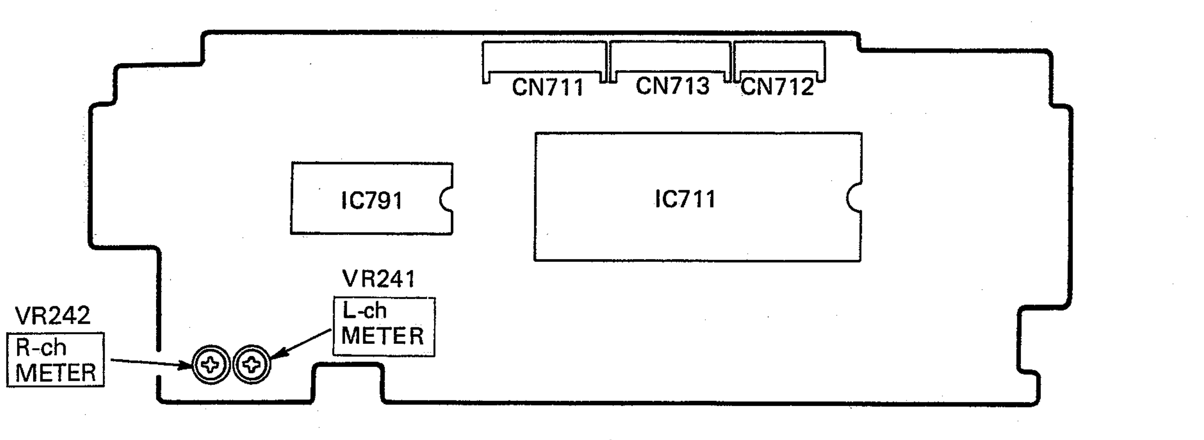


Fig. 2-5-1 TM-1 PCB (Parts side view)

2-6. IR SOUND TRANSMITTER CIRCUIT ADJUSTMENT ... IR-1 PCB

NOTE: The IR SOUND TRANSMITTER CIRCUIT section adjustment has separate adjustment for the Lch and Rch. The Rch adjustments are included in parentheses.

No.	Item	Input	Mode	Point	Location	Remark
1	NOISE REDUCTION OPERATING CURRENT	Audio-signal (1 KHz, -3.8 dBm) from Audio signal generator	E-E	R5516 (Hot) R5516 (Cold)	VR551	1. Connect an audio frequency oscillator to pin 6 (pin 8) of CN551. Then adjust the oscillation output to 1 KHz, -3.3 dBm. 2. Connect an AC voltmeter across R5602 (R5702). 3. Confirm that the signal input level is -31.8 ± 2 dBm. Readjust the oscillation output when the signal input level is not -31.8 ± 2 dBm. 4. Connect a digital voltmeter (+) to hot side of R5516, (-) to cold side of R5516. 5. Adjust VR551 so that the voltage is 15 mV ± 0.15 mV [DC].
2	FM CARRIER FREQUENCY OSCILLATION	None	E-E	IC561 pin 4 (Lch) IC571 pin 4 (Rch)	VR561 (Lch) VR571 (Rch)	1. Connect a frequency counter to pin 4 of IC561 (IC571). 2. Adjust VR561 (VR571) so that the frequency is 95 KHz (250 KHz) ± 1 KHz.

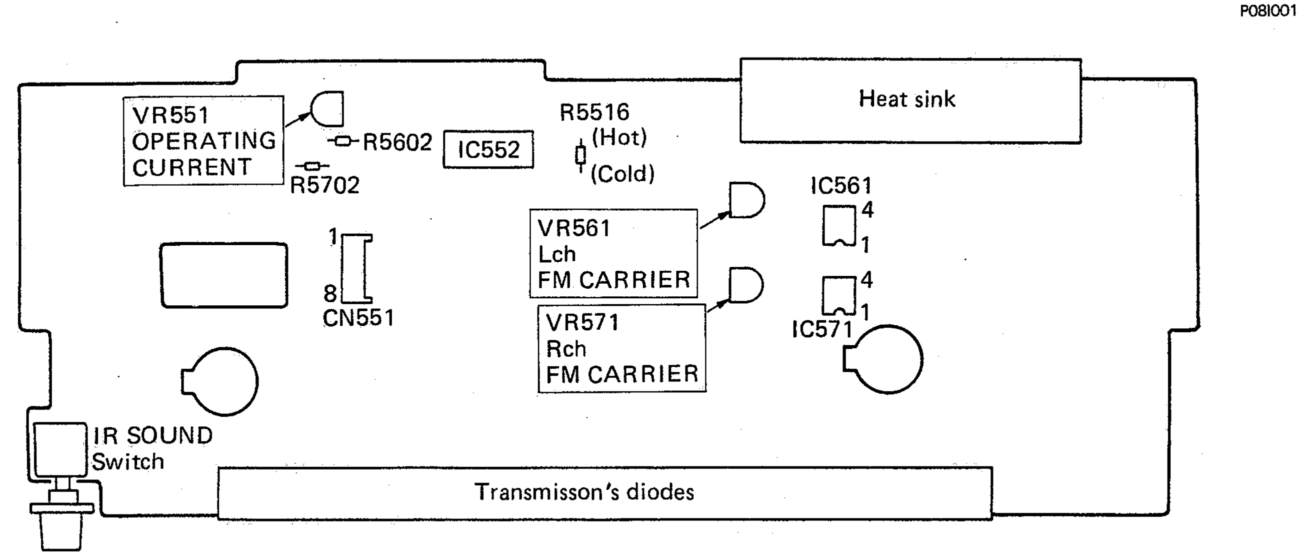

P08I001
VR551
OPERATING
CURRENT
R5602
R5702
IC552
R5516
(Hot)
(Cold)
Heat sink
IC561
4
1
VR561
Lch
FM CARRIER
VR571
Rch
FM CARRIER
4
1
IC571
1
8
CN551
IR SOUND
Switch
Transmisson's diodes

Fig. 2-6-1 IR-1 PCB (Parts side view)

2-7. IR SOUND RECEIVER CIRCUIT ADJUSTMENT..... IR-2 PCB

NOTE (1): The adjustment should be carried out completion of the IR sound transmitter (IR-1 PCB).
(2): The IR SOUND RECEIVER CIRCUIT section adjustment has separate adjustment items for Lch and Rch. The Rch adjustments are included in parentheses.
(3): While adjusting item 4, turned down the volume of the headphones.

SETTING BEFORE ADJUSTMENT

(1): Connect an output terminal of the audio frequency oscillator to the both (Lch) and (Rch) of AUDIO LINE-IN on the VCR.
(2): Connect an external 2.6 volts Voltage source to "+B" terminal of IR-2 PCB and turn the Power switch on.
(3): Turn the Tone control to the HIGH position.
(4): IR sound switch to ON position, and maintain approx. 2 meters and in the right direction between the IR sound receiver and the VCR.

No.	Item	Input	Mode	Point	Location	Remark
1	DETECTING CENTER-FREQUENCY	Audio signal (1KHz, -3.8 dBm) from audio signal generator	AV	TP4 (LcH) TP6 (RcH)	VL581 (LcH) VL582 (RcH)	1. Connect an audio distortion meter to TP4 (TP6). 2. Adjust VL581 (LV582) so that the distortion is minimum.
2	NOISE REDUCTION INPUT LEVEL	Audio signal (1 KHz, -3.8 dBm) from audio signal generator	AV	TP3 (LcH) TP5 (RcH)	VR581 (LcH) VR582 (RcH)	1. Connect an AC voltmeter to TP3 (TP5). 2. Adjust VR581 (VR582) so that the input level is -31.8 dBm.
3	NOISE REDUCTION OPERATION CURRENT	Audio signal (1 KHz, -3.8 dBm) from audio signal generator	AV	TP1 TP2	VR591	1. Connect a digital voltmeter to TP1 and TP2 respectively. 2. Adjust VR591 so that the voltage (between TP1 and TP2) is 15 ± 0.15 mV.
4	MUTING-SENSITIVITY	Audio signal (1 KHz, -3.8 dBm) from audio signal generator	AV	HEAD-PHONES	VR594	1. Connect the headphones to the IR sound receiver. 2. Set the IR sound switch to the OFF position and adjust VR594 until the random noise just disappears. 3. After that, the IR sound switch to ON position. 4. Cover the lens of IR sound receiver with hand slowly and check so that the mute operation can be obtained. 5. Readjust VR594 in case of the random noise still appears.

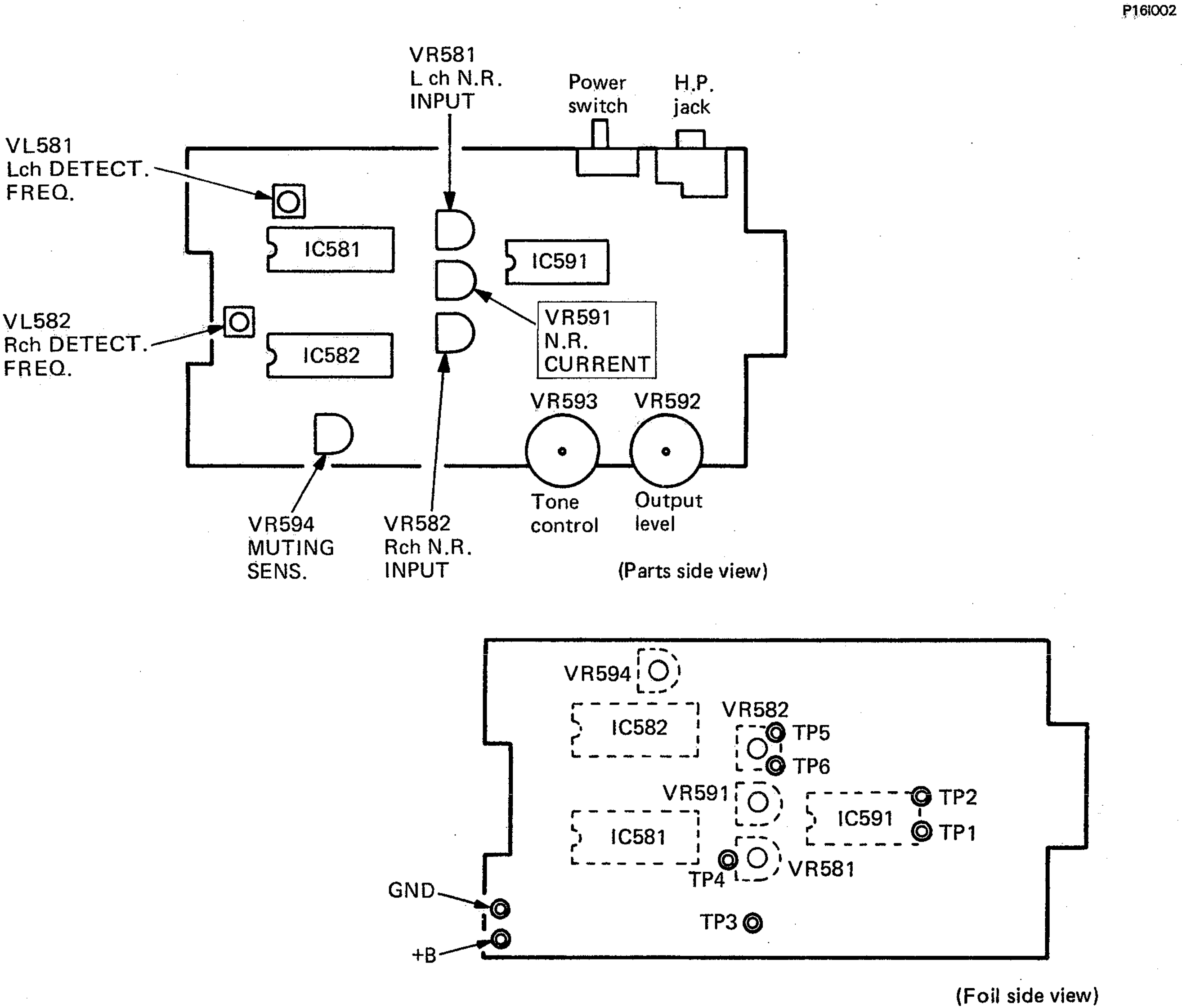
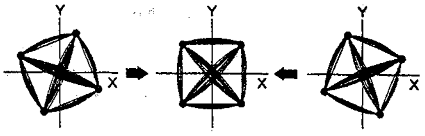
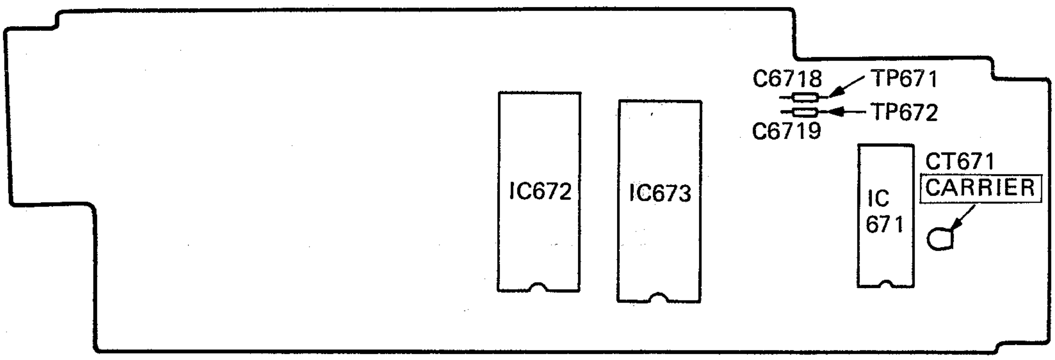

P161002
VR581
L ch N.R.
INPUT
Power
switch
H.P.
jack
VL581
Lch DETECT.
FREQ.
IC581
IC591
VL582
Rch DETECT.
FREQ.
IC582
VR591
N.R.
CURRENT
VR593
VR592
Tone
control
Output
level
VR594
MUTING
SENS.
VR582
Rch N.R.
INPUT
(Parts side view)
VR594
IC582
VR582
TP5
TP6
VR591
IC591
TP2
TP1
IC581
TP4
VR581
GND
+B
TP3
(Foil side view)

Fig. 2-7-1 IR-2 PCB

2-8. NICAM DECODER CIRCUIT ADJUSTMENT ... TN-5 PCB

NOTE (1): Do not use a metalic screw driver.
(2): Use the same type of probe (10 MHz, 15 pF) for CH-1 and CH-2.

No.	Item	Input	Mode	Point	Location	Remark
1	CARRIER (VCXO)	NICAM system broadcasting	E-E	TP671 (CH-1) TP672 (CH-2) (TN-5 PCB)	CT671 (TN-5 PCB)	 1. Receive a NICAM-system (approx. 70 dBμ) broadcasting. 2. Set the oscilloscope to X—Y mode. Set VOLTAGE/DIV. of CH-1 (X) and CH-2 (Y) to 20 mV/DIV.. 3. Connect CH-1 (X) and CH-2 (Y) of the oscilloscope to the TP671; CH-1 and TP672; CH-2. 4. Adjust CT671 so that the resurge waveform becomes parallel to the X and Y axes.



P08N001
C6718
TP671
TP672
C6719
IC672
IC673
IC 671
CT671
CARRIER

Fig. 2-8-1 TN-5 PCB (Parts side view)

2-9. MTS (Multiplex TV System) DECODER CIRCUIT ADJUSTMENT ... TN-3 PCB

NOTE: The VR631 is accessible from the foil side of CP-1 PCB (Fig. 2-4-1)

No.	Item	Input	Mode	Point	Location	Remark
1	STEREO SEPARATION	Audio signal (R ch...1 KHz 100% mod. L ch...400Hz unmod.) from Audio MPX TV signal generator	E-E	AUDIO OUTPUT CN852 pin 10 (L ch) (CP-1 PCB)	VR631	1. Set the pilot signal for the stereo mode. With the L ch unmodulated, provide 1 KHz 100% modulation on the R ch. 2. Connect an oscilloscope to the audio output terminal (L ch) and adjust VR631 for minimum waveform peak-to-peak value.
2	STEREO (117.5 Hz)	TV broadcast (Stereo)	E-E	IC631 pin 5	VR632	1. Select the TV channel to stereo programme. 2. Adjust VR632 so that the waveform is maximize.
3	BILINGUL (274.1 Hz)	TV broadcast (Bilingul)	E-E	IC631 pin 6	VR633	1. Select the TV channel to bilingul programme. 2. Adjust VR633 so that the waveform is maximize.

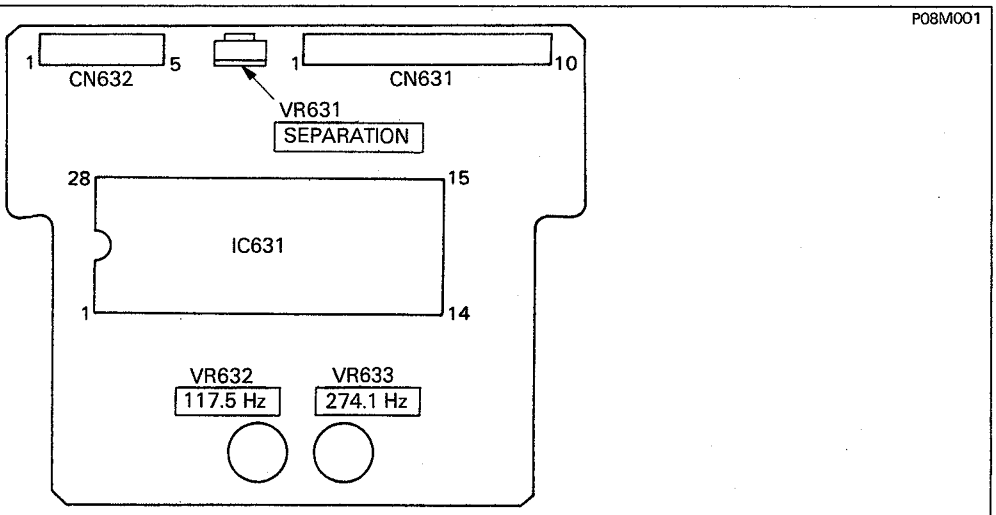


Fig. 2-9-1 TN-3 PCB (Parts side view)

2-10. TUNER IF CIRCUIT ADJUSTMENT ... IF Pack

No.	Item	Input	Mode	Point	Location	Remark
1	RF AGC	TV broadcast	E-E	TV screen	VR611	1. Turn VR611 in the direction which causes snow to appear, then in the opposite direction until the snow just disappears.

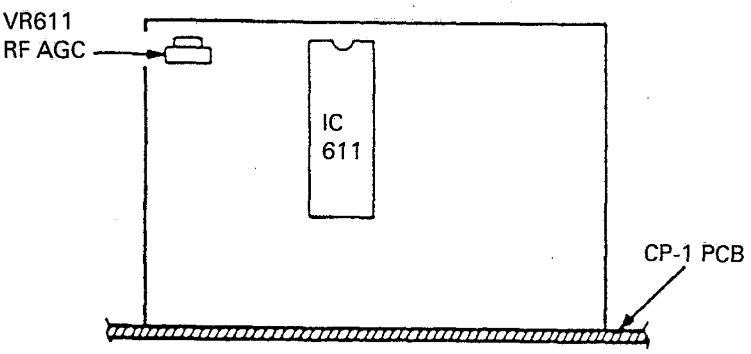


Fig. 2-10-1 IF Pack PCB (Parts side view)

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